



Taylor & Mulder
Property and Casualty Consulting Actuaries

**MISSOURI PETROLEUM STORAGE TANK INSURANCE
FUND**

**LOSS AND LOSS ADJUSTMENT EXPENSE
RESERVE ANALYSIS
AS OF JUNE 30, 2024**

AUGUST 2024



Taylor & Mulder
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August 29, 2024

Ms. Kelley J. Ogletree
Executive Director
Petroleum Storage Tank Insurance Fund
P.O. Box 836
Jefferson City, MO 65102

**RE: ACTUARIAL ANALYSIS OF THE PETROLEUM STORAGE TANK INSURANCE
FUND AS OF JUNE 30, 2024**

Dear Ms. Ogletree:

Enclosed is the actuarial review of the loss and allocated loss adjustment expense reserves of the Missouri Petroleum Storage Tank Insurance Fund as of June 30, 2024.

The first section in the text of our report is the Executive Summary section. This section presents our Conclusions and Recommendations. It also describes the Purpose and Scope of our report, explains the Distribution and Use of our report, and provides the Conditions and Limitations underlying our work. This section of our report includes the Background section which provides information about the PSTIF program history.

The next section of the text of our report is the Actuarial Analysis section that describes the sources of data, our overall methodology, the selection of factors and specific methodologies and considerations by line of business. It also describes the selection of ultimate losses, and loss reserve discounting. The Exhibits section of our report follows the text of the report and includes all of our analyses.

Please feel free to call if you have any questions regarding any aspect of our report.

Sincerely,

Bobby J. Jaegers, ACAS, MAAA, CSPA, FCA

Daniel W. Lupton, FCAS, MAAA, CSPA, MBA

E. Tom Mulder, FCAS, MAAA, FCA

Enclosures

Missouri Petroleum Storage Tank Insurance Fund

Loss and Loss Adjustment Expense Reserve

Analysis as of June 30, 2024

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Executive Summary

Purpose and Scope

Taylor & Mulder, Incorporated (“T&M”) was requested by the Board of Trustees ("Board") of the Missouri Petroleum Storage Tank Insurance Fund (“PSTIF”) to conduct an actuarial review of the PSTIF's loss and loss adjustment expenses reserves as of June 30, 2024. This report contains our summary, conclusions and recommendations along with a description of the analysis underlying our conclusions.

Specifically, T&M was asked by the Board to conduct an actuarial analysis to include within its scope the following tasks:

- A review and opinion on the adequacy of current claim reserves of PSTIF,
- A projection of PSTIF's future claim liabilities, including an estimate on future claim severity and frequency, separately for each claim type, and
- An analysis of PSTIF's large loss claims, including:
 - Information on the typical lag time between the time when a claim is opened and the time it is identified as a “large loss claim,”
 - The history of losses and reserving practices on “large loss claims,” and
 - Information on how “large loss claims” are expected to impact the PSTIF’s future finances.
- An estimation of the claims impact on PSTIF's financial position of the December 31, 2030 sunset provision in the enabling legislation.

This report presents the results of those analyses. This report was prepared by Daniel W. Lupton, FCAS, MAAA, CSPA, MBA, Vice President and Consulting Actuary, and E. Toni Mulder, FCAS, MAAA, FCA, President and Principal and Consulting Actuary.

In accordance with the requirements of the Actuarial Standards of Practice in making statements of actuarial opinion, we provide the following statements:

I, Daniel W. Lupton, am an Officer and Consulting Actuary in the firm of Taylor & Mulder, Inc. I am a Fellow of the Casualty Actuarial Society in good standing and qualified to issue a Statement of Actuarial Opinion. I am also a Member of the American Academy of Actuaries.

Background

In the early 1980s, the federal government recognized that an underground storage tank (“UST”) could present an environmental hazard. At the time, many underground petroleum tanks were fabricated of unprotected steel which was subject to corrosion and deterioration leading to contamination of the surrounding soil and, perhaps more importantly, nearby groundwater. By 1984, legislation was in place to permit the Environmental Protection Agency (“EPA”) to set standards for tank design, installation, and protection to minimize the danger of future releases of petroleum or other hazardous chemicals stored underground. Over the years since, there have been additional EPA standards and regulations for tanks to further strengthen measures to protect the environment and groundwater. Included in these rules are requirements for tank owners/operators to have minimum levels of financial resources to deal with leaks and spills that might occur. In Missouri, this financial requirement is generally met by the purchase of commercial insurance, participation in PSTIF, or both.

Missouri responded to the federal actions and established the Underground Storage Tank Insurance Fund in 1989, which preceded the creation of the PSTIF, to assist owners/operators of underground storage tanks in meeting federal financial responsibility rules. In 1992, the PSTIF began offering contractual coverage to underground tank owners/operators to pay for the costs associated with petroleum leaks and spills in the state of Missouri. This coverage is provided on a claims-made basis.

The initial legislation enabling the PSTIF had a sunset date of December 31, 1998. Additional legislative actions have moved the date to 2003, 2010, 2020, 2025, and finally to the current

December 31, 2030 sunset date. Consequently, all projections performed by T&M in this report assume a December 31, 2030 sunset date. PSTIF will be responsible for the cost of claims reported to it as of December 31, 2030. Claims reported after that date will not be handled by PSTIF without further legislation extending the sunset date.

In 1995, the PSTIF's mandate was expanded to include cleanup of petroleum contamination from certain uninsured leaks and spills. Uninsured risks included operations that had been closed prior to December 31, 1997. Therefore, the PSTIF pays for remediation costs associated with uninsured aboveground and underground storage tanks that were taken out of use by December 31, 1997, even when the tanks were never covered by the PSTIF. In some cases, petroleum releases went undetected (for example, at old gas stations) for many years. When soil or water tests reveal petroleum contamination as a result of such disused sites and a party is identified who is willing to assume responsibility for directing remediation efforts, PSTIF will pay for the remediation associated with that leak or spill subject to certain criteria and after a deductible.

In 1996, PSTIF was opened to aboveground storage tank ("AST") owners/operators to voluntarily purchase protection. Then in 2008, the Missouri legislature mandated that AST owners/operators demonstrate financial responsibility for liability arising from any leak or spill beginning in 2011. This increased the number of ASTs covered by PSTIF.

Extended reporting endorsements permit the reporting of claims for a period of up to five (5) years after the tank is retired from service or sold. PSTIF began offering extended reporting endorsements for AST owners/operators taking tanks out of service in 2002. Beginning in 2004,

UST owners/operators have been able to buy an extended reporting endorsement. However, no extended reporting endorsements will cover claims reported after December 31, 2030, the sunset date in the most recent legislation.

In contrast to many such state funds, which often act more as government grant programs than risk shifting programs, the PSTIF requires tanks owners/operators to complete an application and be approved to receive a coverage document. The coverage document is either the Underground Storage Tank Participation Agreement or the Aboveground Storage Tank Pollution Liability Participation Agreement depending on the type of tank provided coverage. The application and approval process allows PSTIF to enforce compliance with ever-developing standards for tanks and the associated piping.

In the event that a release is discovered after the retroactive date of the PSTIF coverage (the date at which coverage initially attaches), PSTIF will pay for the first \$1,000,000 of the costs per event, subject to a \$2,000,000 annual aggregate. Each event carries a \$10,000 deductible.

For purposes of this report, PSTIF storage tank claims are categorized into the following groups:

- Insurance UST – Release: Underground storage tank petroleum releases from contractually covered tanks;
- Insurance UST – Closure: Underground storage tank petroleum releases from contractually covered tanks that were discovered when the tank was being removed from an contractually covered site;

- Insurance UST – Other: Underground storage tank petroleum releases from contractually covered tanks that do not fit into either of the above categories;
- Remedial UST: Cleanup costs associated with remediation of uninsured underground storage tank sites that were taken out of use prior to the deadline set by the Missouri Legislature;
- Insurance AST: Aboveground storage tank petroleum spills from contractually covered tanks, and
- Remedial AST: Cleanup costs associated with remediation of uninsured aboveground storage tank sites that were taken out of use prior to the deadline set by the Missouri Legislature.

Terms Defined

ALAE Allocated Loss Adjustment Expense (“ALAE”) is the amount of money spent on a particular claim to the benefit of an insured, the amount that can be allocated to a single claim. These expenses include the attorneys’ fees, expert witnesses, collection and protection of material germane to the claim, etc. For the PSTIF, ALAE does not include contracted fund administration expenses.

Claims-Made Claims-made coverage is a type of insurance coverage that provides protection for the participant on claims reported during the coverage period given that the incident giving rise to the claim occurred on or after the Retroactive Date (“retro date”). The retro date is usually the date the first claims-made coverage was

issued to the participant. Coverage provided by PSTIF attaches on a claims-made basis.

Claims-made coverage may be contrasted to occurrence coverage, which responds to claims brought against the insured given that the incident giving rise to the claim occurred during the coverage period. Both private passenger automobile and homeowners' policies are written on an occurrence basis.

Claim Frequency Claim frequency is the average number of claims per contractually covered exposure. For PSTIF, an contractually covered exposure is one tank contractually covered for one year. For example, if 250 claims are reported in a year with 10,000 contractually covered tanks, the claim frequency (average number of claims per contractually covered exposure) is $250 / 10,000$ covered tanks = 0.025 claim per tank.

IBNR Incurred But Not Reported ("IBNR"), strictly speaking, is a reserve derived by actuaries for claims not as yet reported to the insurer for which premium has been earned and for which the insurer is responsible. Under this narrow definition of IBNR, claims-made coverages would not have IBNR as all claims are known at the end of the coverage period (or soon thereafter). However, the term IBNR for claims-made coverage is used in a broad sense and includes changes in incurred amounts (i.e., paid plus case reserves) for known claims.

Claim estimates done by a claim department or fund administrator must rely on information about the claim at a point in time. The available information may be lacking in important details that will greatly impact the ultimate cost of the claim. Actuaries review the data from the aggregated claims data by year as it changes over time, from the first report of the claim to settlement. From these reviews, the actuary can calculate factors to apply to current case data to estimate the ultimate costs of a body of claims. The difference between estimated ultimate values and current case incurred is IBNR.

Because coverage provided by the PSTIF is claims-made rather than occurrence, all references to IBNR in this report will typically refer exclusively to development on known claims unless otherwise noted.

LAE Loss Adjustment Expense (“LAE”) is the sum of Allocated Loss Adjustment Expense (“ALAE”) and Unallocated Loss Adjustment Expenses (“ULAE”) and represents the total costs of handling and defending claims.

LDF A Loss Development Factor (“LDF”) is calculated by an actuary from historical claim data and applied to current paid or incurred values to estimate ultimate claim costs for an insurer.

Pure Premium Pure Premium is the average cost of insurance per covered exposure. For PSTIF, a covered exposure is one tank contractually covered for one year. An

example might help clarify the concept. If two tanks are covered and one has a claim for \$100, then the pure premium (average loss per covered exposure) is $\$100 / 2 \text{ covered tanks} = \50

Severity

Severity is the average size of claim for a given collection of claims. For instance, if the total cost for three claims is \$45,000, the claim severity (average size of claim) is $\$45,000 / 3 \text{ claims} = \$15,000 \text{ severity}$.

ULAE

Unallocated Loss Adjustment Expense (“ULAE”) represents the expenses. For the Fund, ULAE represents costs associated with fund administration.

Conclusions

Loss and Allocated Loss Adjustment Expense Reserve Adequacy

T&M analyzed loss and loss adjustment expense reserves for the six broad categories of claims enumerated above. The following table shows the results of our analysis for these categories:

Missouri Petroleum Storage Tank Insurance Fund Undiscounted Unpaid Loss & ALAE as of June 30, 2024				
Claim Type	Case Outstanding	IBNR	Unpaid ALAE	Unpaid Loss & ALAE
Insurance UST - Release	7,819,497	5,505,595	79,510	13,404,602
Insurance UST - Closure	10,298,865	6,864,470	102,412	17,265,748
Insurance UST - Other	5,474,909	5,124,536	63,246	10,662,691
Remedial UST	16,010,020	3,227,072	114,786	19,351,879
Insurance AST	16,163,366	10,214,600	157,396	26,535,361
Remedial AST	2,378,627	68,209	14,600	2,461,437
Total	58,145,285	31,004,483	531,951	89,681,718

Projected investment income for this report was 1.5%, based on historical investment yields earned by the State. Investment income amounts to approximately 9.3% of undiscounted losses. Improvements in investment yield will increase this amount.

The following table shows the results of our analysis taking into account the effect of investment income:

Missouri Petroleum Storage Tank Insurance Fund Discounted Unpaid Loss & ALAE as of June 30, 2024			
Claim Type	Undiscounted Unpaid Loss & ALAE	Discount	Discounted Unpaid Loss & ALAE
Insurance UST – Release	13,404,602	1,176,663	12,227,940
Insurance UST – Closure	17,265,748	1,574,912	15,690,836
Insurance UST – Other	10,662,691	863,089	9,799,602
Remedial UST	19,351,879	2,078,123	17,273,755
Insurance AST	26,535,361	2,444,321	24,091,041
Remedial AST	2,461,437	189,302	2,272,135
Total	89,681,718	8,326,410	81,355,308

Although Remedial UST claims made up the largest category of case reserves, contractually covered events (particularly those of type “Insurance UST – Other”, “Insurance UST – Closure”, and “Insurance AST”) carry most of the IBNR. In the future, as remedial claims are closed and future remedial claims decrease in number (proportional to the decreasing number of remedial sites), we expect Remedial UST to continue to decrease as a portion of unpaid loss and LAE compared to other claim types.

As of June 30, 2024, the PSTIF held \$90,853,274 in reserves for claims payable. This is \$1,171,556 redundant when compared with the undiscounted unpaid loss and ALAE, and \$9,497,966 redundant when compared with the discounted unpaid loss and ALAE.

Note that the reserves in the above table do not include a provision for claims not yet reported to the PSTIF as of June 30, 2024.

Unallocated Loss Adjustment Expense Reserve

If PSTIF were a commercial insurance company, statutory insurance accounting rules would require that all estimated future costs for claims administration for open claims be held as reserves. T&M has estimated those additional costs for Williams & Company Consulting, Inc. (“Williams”), the PSTIF fund administrator, to handle all open claims until final settlement at \$17,575,537 on an undiscounted basis and \$15,943,754 on a discounted basis. This amount is not included in the tables above. This amount reflects the extended time horizon over which

PSTIF claims are paid. The following chart shows the total liability including unallocated loss adjustment expense:

Missouri Petroleum Storage Tank Insurance Fund Discounted Unpaid Loss & LAE as of June 30, 2024			
	Undiscounted Reserve	Discount	Discounted Reserve
Loss & Allocated Loss Adjustment Expense	89,681,718	8,326,410	81,355,308
Unallocated Loss Adjustment Expense	17,586,609	1,634,999	15,951,610
Total	107,268,327	9,961,409	97,306,918

Loss and Loss Adjustment Expense Reserves (Including Unallocated) Needed at Sunset Date

If the sunset date of the PSTIF is not changed by the legislature, the ability for filing new claims will sunset on December 31, 2030. In order to estimate the reserve position of PSTIF as of December 31, 2030, T&M made several assumptions. The first assumption was that there would not be any increase in the rate at which releases are reported as the sunset date approaches, see Exhibits E-15 and E-19.

T&M also assumed that the releases reported from June 30, 2024 through December 31, 2030 will have the same average frequency and severity as the historical data, adjusted for trends in the data. Payment patterns by type of release were applied to the data to produce the needed reserves. The following table summarizes the anticipated reserve required to run off all claims reported as of the anticipated fund sunset date:

Missouri Petroleum Storage Tank Insurance Fund
Unpaid Loss & LAE on December 31, 2030
Assuming No Increase in the Rate of Reported Releases
Reserve Study as of June 30, 2024

	Undiscounted	Discounted
Unpaid Claim Expense	87,268,409	79,166,060
Unpaid Allocated Loss Adjustment Expense	520,725	472,379
Unpaid Unallocated Loss Adjustment Expense	17,215,472	15,617,119
Total	105,004,606	95,255,558

As discussed above, these unpaid claim amounts do not take into account the possibility of increased claim reporting in the period leading up to the fund sunset, nor do the above reserves include amounts required for overhead expenses such as salaries of fund personnel or the PSTIF Board's annual contributions to support the Department of Natural Resources' regulatory program. Discounted losses are calculated using an investment yield of 1.5% which is consistent with historical financial documents prepared by PSTIF.

Reserving Practices

Claims handling and underwriting is provided by Williams under a contract with the PSTIF. Much of the Williams' staff has a technical background in engineering or geology and significant experience in handling claims for the PSTIF.

Williams' claim philosophy entails providing a swift response to reports of covered releases in order to minimize further contamination and the associated increased liability. A swift response also enables the claim department to secure pertinent physical evidence (such as damaged piping, valves, etc.) before it is discarded. Discussions during the preparation of this report

indicate that the claims philosophy has not changed, although there has been a concerted effort to decrease the time between the receipt of a claim and its closure.

Claims handling is somewhat different than that of an insurance company in that the PSTIF was created to protect the environment and the citizens of Missouri from the impact of petroleum releases. Therefore, the claims handling effort is focused on reasonable and necessary costs for effective response to reach the cleanup standards required by the MoDNR. The number of PSTIF lawsuits appears relatively modest when compared to commercial general liability insurers. Those claims involving lawsuits have defense counsel assigned as would be expected.

Claims are handled by having the contractor or the consultant hired by the owner/operator submit a proposed work plan and estimated costs to the PSTIF. The planned costs may be challenged by the claims adjustor and proposed costs must be deemed “reasonable” to be approved. Once the project is started, invoices are submitted to the PSTIF for reimbursement.

Remedial claims present a unique situation that would not be encountered in a commercial insurance company. Often the site has been abandoned completely or converted to a different use. Remedial claims generally move forward only when a party is willing to step forward and participate in the remediation process, which usually includes paying the first \$10,000 of cleanup costs.

Adjustors are also charged with establishing appropriate case reserves for the PSTIF. In insurance companies, aggregate incurred values (paid plus case reserves) tend to increase over time as more information regarding claims becomes known. Overall, PSTIF incurred values produce low loss development factors, which indicates that the case incurred values are a reasonable indicator of the ultimate cost of PSTIF claims, particularly for the UST Closure and UST Remedial claims.

When the proposed work plan for the release site has been completed and all monitoring results are within required limits, the claimant's environmental consultant informs the Missouri DNR that the impact of the release meets the DNR's remediation standards. Once the DNR concurs with the consultant's conclusions, they will then issue a "No Further Action" ("NFA") letter. Some activities must be completed after an NFA is issued, and once all costs have been submitted and reimbursed, the claim is closed. Claims not actively being managed by the owner/operator (i.e., cleanup activities have been abandoned or monitoring is not in place) are placed in suspense. Essentially, this means that the claim is not progressing toward the issuance of an NFA letter by the Missouri DNR. These stalled claims are removed from the suspense list and handled in a normal manner if someone again takes an interest in completing the cleanup at a future date.

Underwriting

Williams also provides underwriting services as part of its fund administration function. An application for coverage with the PSTIF must be filled out by the tank owner/operator along with a method of securing payment of the \$10,000 deductible. In addition, the tank

owners/operators must demonstrate that the tanks and associated piping under their control are not currently leaking and are in compliance with state regulations.

Coverage attaches on a claims-made basis which means that claims must be reported during the coverage period in order to be covered. Remedial claims are covered as reported without the requirement that coverage was in effect at the time of the release.

Data required on the application for participation in PSTIF for UST installations include such items as the installation date, the tank capacity, the type of product contained, type of tank (e.g., single walled, double walled, fiberglass, etc.), type of piping, and details on overfill and leak protection. The PSTIF application for AST's requires similar documentation requirements along with information on the secondary containment system in place.

Applications for coverage with the PSTIF are reviewed by Williams' personnel and deficiencies are noted. Coverage documents are only issued if the application information is found to be satisfactory.

Projection of Future Loss and Loss Adjustment Expense, Claim Severity, and Frequency

T&M was asked to estimate costs for claims to be reported in 2024 and subsequent years, i.e., claims that have not yet been reported to PSTIF. To perform this projection, T&M applied several methodologies to estimate future loss and loss adjustment expenses based on claim frequency and claim severity for each claim category. For purposes of our initial projection of reserves needed as of December 31, 2030, we assumed that claims reporting would proceed as

normal with no increase in reporting due to the impending sunset date. In addition, T&M created scenarios that might represent an expected influx of claims should the program not have its termination date extended.

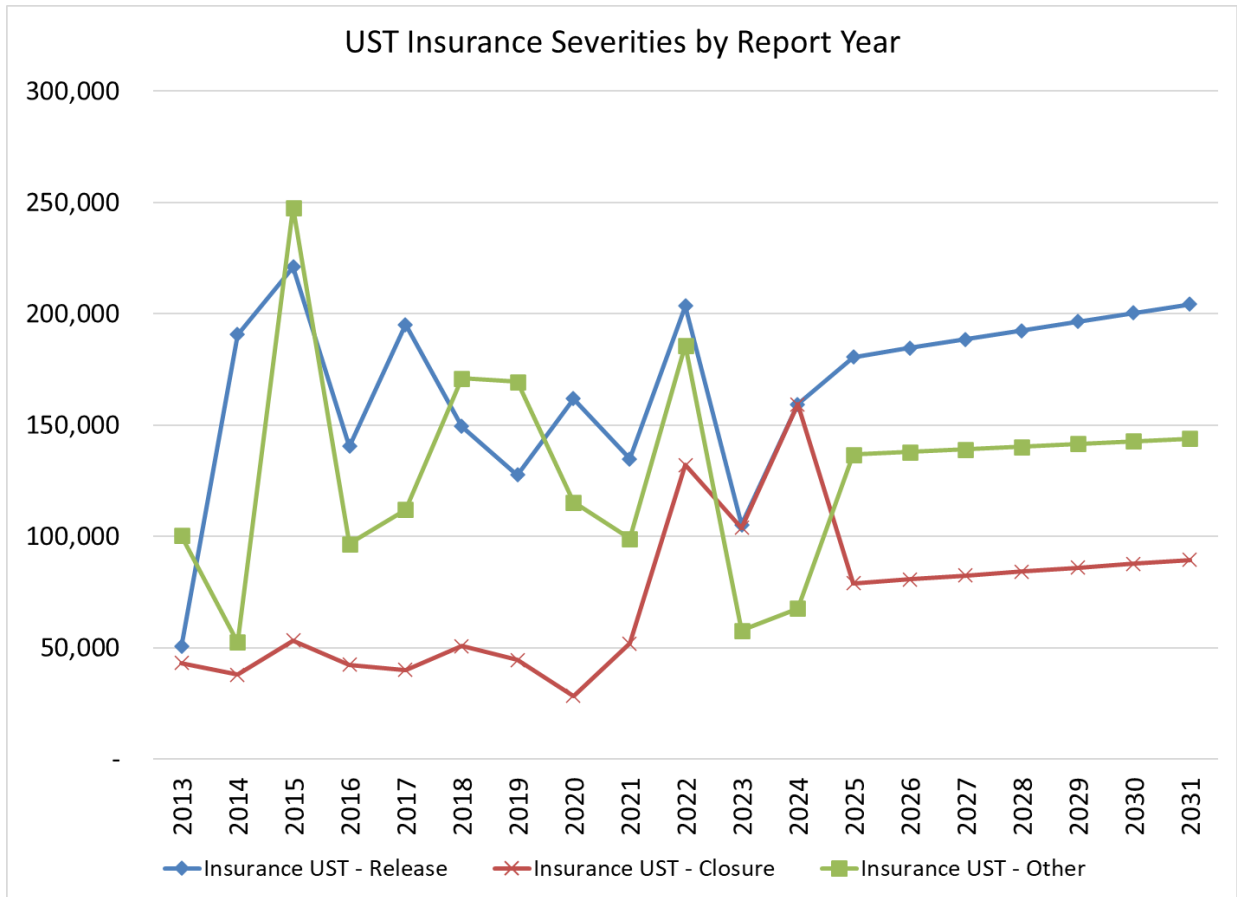
Projection of Frequency and Severity

As part of projecting the financial condition of the PSTIF through December 31, 2030, we estimated (1) future claim severity and (2) future claims reporting for each claim category.

Analysis of coverage in-force indicates a modest negative trend in the number of UST and AST tanks with in-force coverage. In the case of UST coverage, we have projected modest declines in the future based on this recent trend. In the case of in-force AST coverage, the PSTIF previously provided a likely maximum penetration of 80% to 85% of ASTs. The number of AST policies in force have been decreasing since 2014 and we expect the number of AST policies to continue to decrease by roughly 1.5% per year.

The current analysis of average claim severities this year suggests that Insurance UST – Release, Insurance UST – Other, and Insurance AST claims will increase over time, while Insurance UST – Closure and remedial claims of all types will tend to stay at about the same average severity level over time.

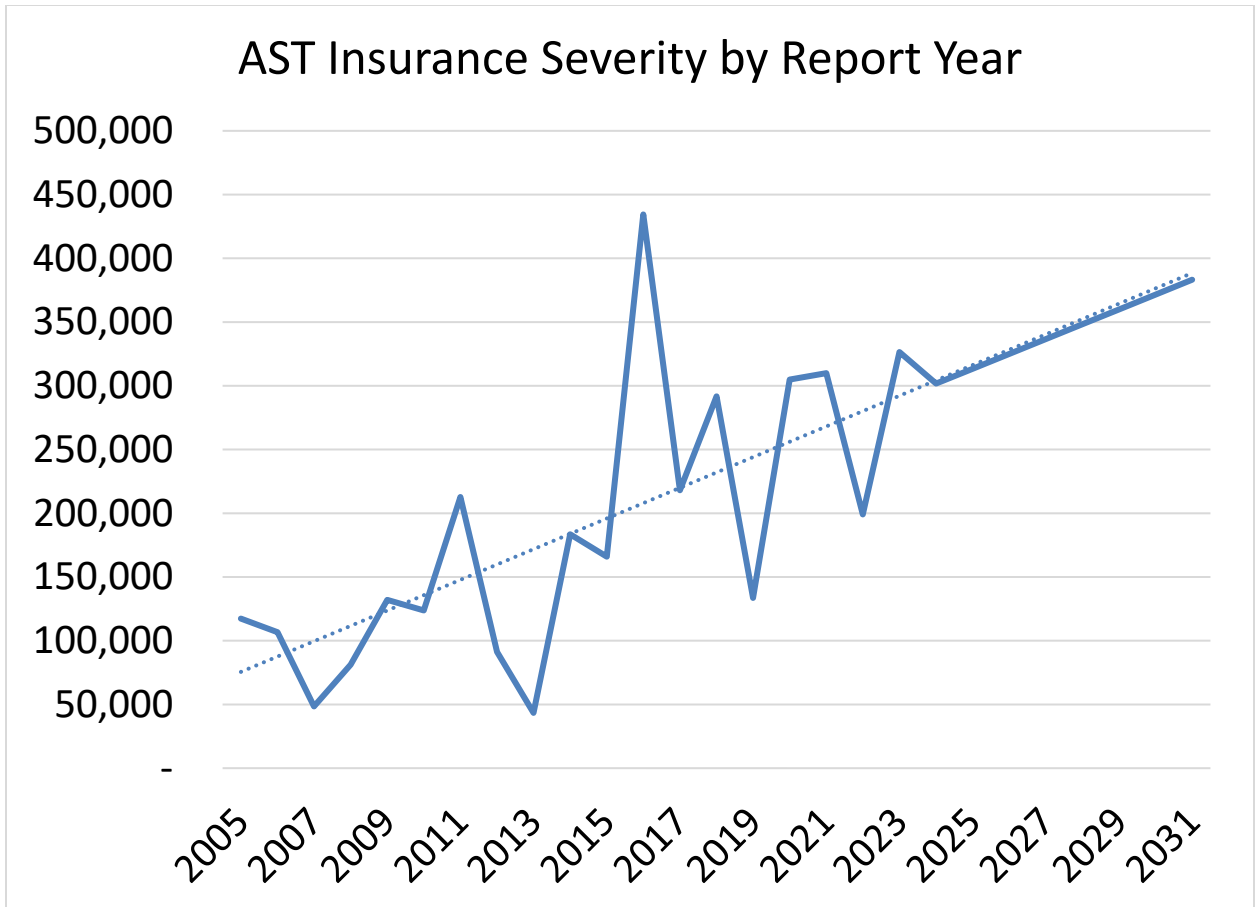
The following four charts show claim severities over time. The first chart displays the Insurance UST claim severities over time from Report Year 2013 to Report Year 2031:



Note that everywhere they are discussed in this report, Report Years are based on the fiscal year in which a claim was opened. For example, a claim that was opened between July 2023 and June 2024 will have a Report Year of 2024 to match the fiscal year ending June 30, 2024.

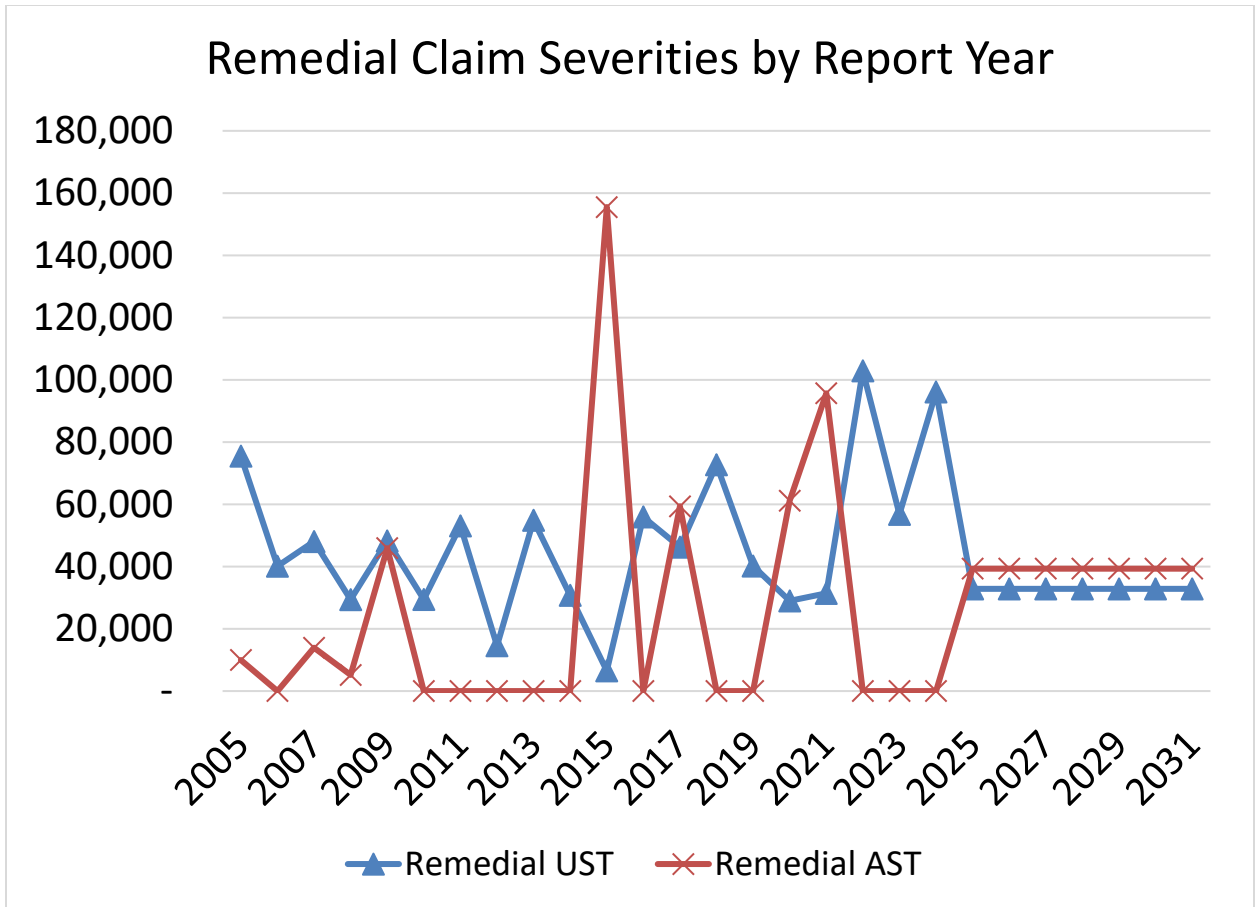
As this graph shows, the average severity for the “Release” and “Other” claim types have generally fluctuated between \$50,000 and \$250,000, while the “Closure” claim type has shown very stable average severity over time. This stability may be attributed to the higher number of “Closure” claims compared to other Insurance UST claim types, which creates lower volatility.

The following chart shows the average claim severity from Report Year 2005 to Report Year 2031 for Insurance AST claims:



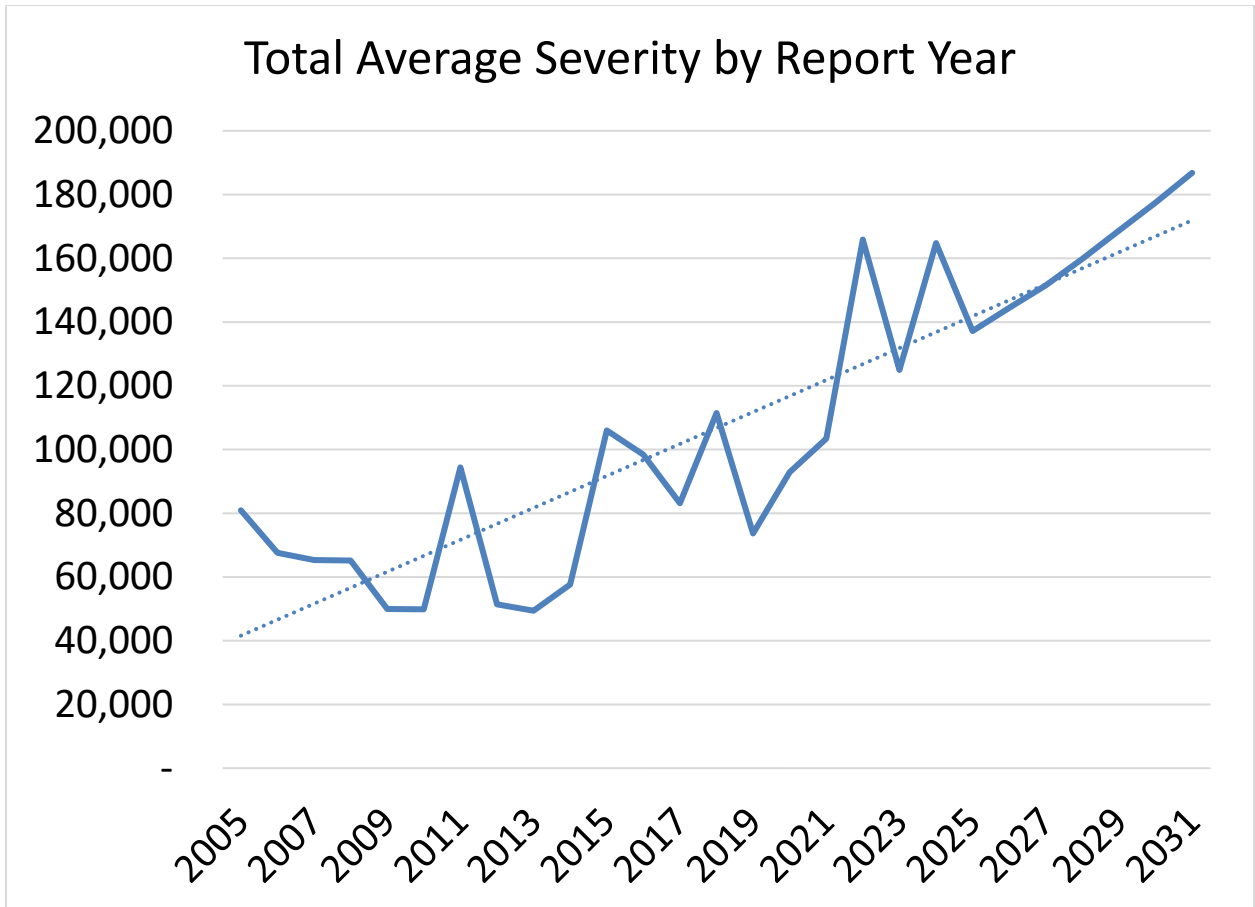
As this chart shows, the average severity of Insurance AST claims has shown significant volatility over time. Recent years have shown continued upward trend, leading us to project continued increases in average severity over time.

Finally, the following chart shows the average severity of Remedial UST and AST claims from Report Year 2005 to Report Year 2031:



As this chart shows, the remedial UST claim severities have remained relatively stable over time. Remedial AST frequencies show a similar pattern on an individual claim basis but show greater volatility in this chart because claim volumes are much lower, and a small number of large claims can cause severity to appear to have spiked, when this is really a result of normal variation in claim severities.

Finally, the following chart shows the combined total average severity over time:



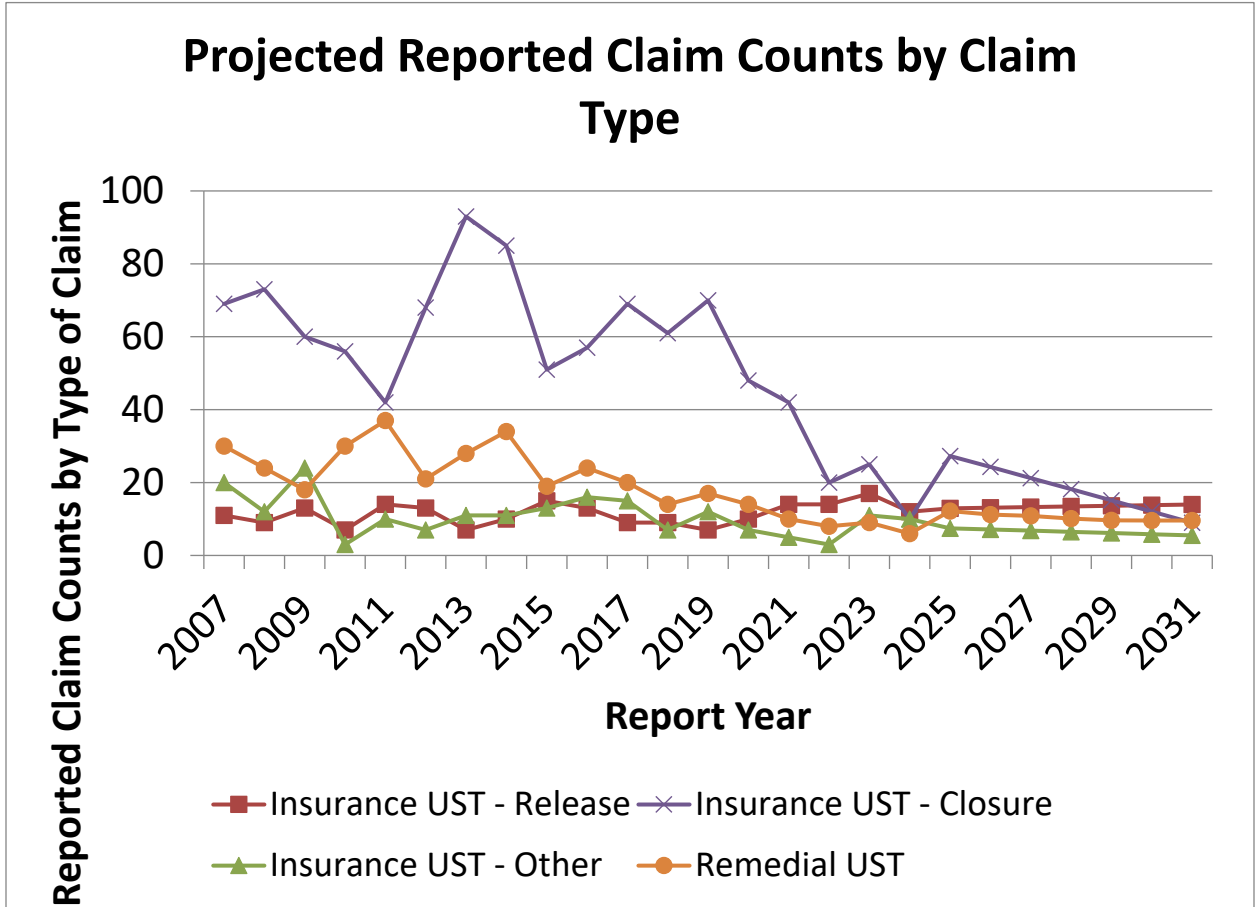
As this graph shows, the overall average severity has increased since the mid-2000s. This is likely caused by several trends. First, it is expected that increasing DNR requirements over time will have the effect of increasing the cost to remediate, all else remaining equal. In addition, we observe a changing mix of claim types over time. As claim types with higher average severities make up a larger percentage of total claims and claim types with lower average severities make up a smaller share, the average severity has drifted upward over time.

Finally, note that the spike in 2022-2023 may be driven in part by lower-than-expected claim counts during that period on a combined basis. Because of the immaturity of these years, ultimate loss projections remained at levels consistent with the recent past. This, combined with the decrease in claim counts, led to a spike in severity. Subsequent analyses may see that

spike reduce considerably as claims mature, either as incident reports are reclassified as normal insurance claims or as more mature claims development information supports a decrease in the ultimate losses for these years.

In addition, we performed an analysis of claim frequencies over time. To project future reported claims counts, T&M used a variety of regression techniques. The results from those analyses led us to project relatively flat claim count patterns in the future for most claim types and modest declines in claim counts for Insurance UST – Closure and Insurance UST – Release claim types.

The following chart displays historical and projected claim counts by UST claim type:

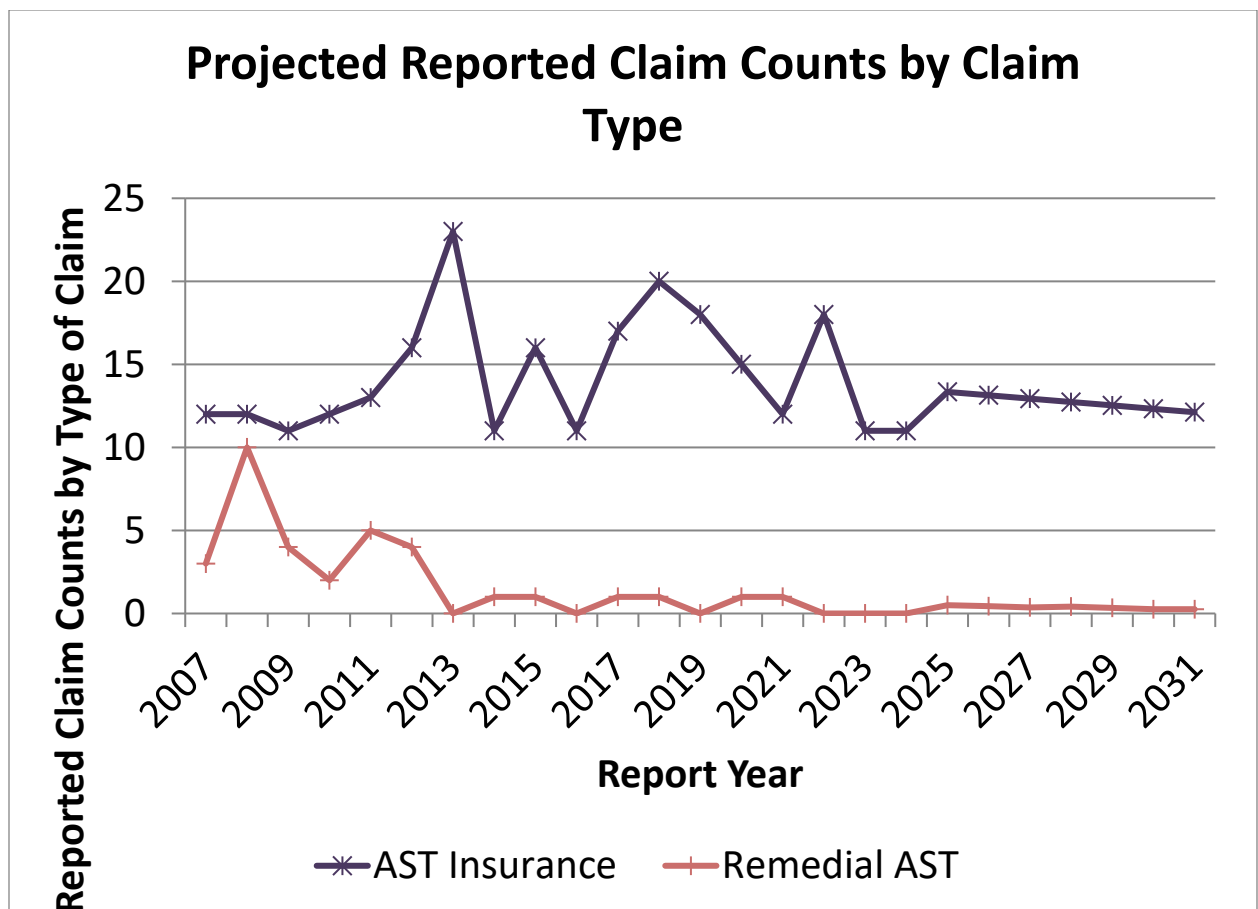


Note that for consistency, the 2031 year shows the projected overall claim frequency for a full report year; however, if the fund sunsets at December 31, 2030 then the total number of anticipated claims in the 2031 report year would be half the number projected on this chart.

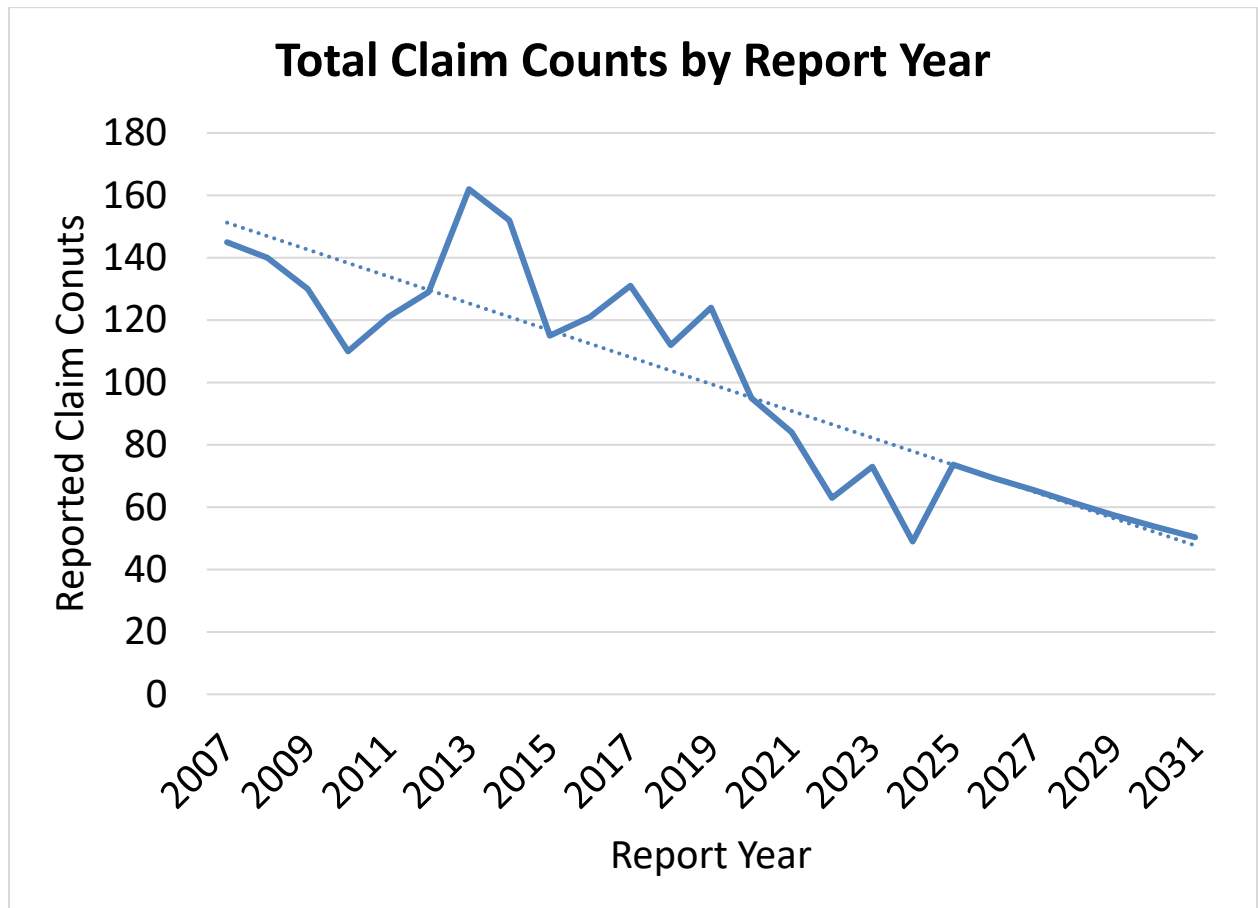
It will be noted that the number of Closure and Other claims declined markedly in 2022-2023 as compared to recent years. The number of claim reports in 2022-2023 was equivalent to recent years, but many of those claim reports are categorized as “incident reports” rather than Closure or Other claims at present. It is possible that in future years, some of those incidents will be reclassified as claims, which would reduce the magnitude of the dip in claim counts in 2022-2023.

As this chart shows, the “Insurance UST – Closure” claim type has dominated since 2003, but generally slopes modestly downward over time. The second most common claim type, “Remedial UST,” appears to also be in slow decline. All other claim types appear to have leveled off by 2020, with the exception of some expected annual volatility, and therefore we anticipate that these claims will continue at roughly the same frequency levels in the future.

Similarly, the following chart shows the historical and projected claim counts by AST claim types:



The following chart shows the total claim counts by Report Year:



This chart shows some modest if volatile decline in reported claim counts through 2024. As noted above, the 2022-2024 years are outliers in terms of recent years; however, this may change in subsequent years if incident reports are reclassified as insurance claims. Projected future years continue under the assumption of a modest decline in total claim counts.

Projection of Revenues

The PSTIF has two primary sources of revenue: transport load fees (“TLF”) and participation fees, which is the actual fee charged to participants for the contractually covered risks.

Transport load fees are charged to transporters of petroleum on a per load basis. TLF make up the majority of the PSTIF revenues. From 2001 until September 1, 2008, TLF fees were \$40 for 8,000 gallons of petroleum product transported. On September 1, 2008, the TLF fee was reduced to \$20 per 8,000 gallons of petroleum product transported. On January 1, 2019, the TLF was increased to \$28 per 8,000 gallons. It was increased again to \$32 per 8,000 gallons effective January 1, 2023. Enabling legislation grants PSTIF the authority to raise and lower the TLF as needed, within statutory limits. The overall maximum TLF is set at \$60 per 8,000 gallons of petroleum product by legislation.

Participation fees are charged annually to tank owners/operators on the basis of the categories of tanks covered. For USTs, the participation fee is \$100 per tank for double-walled tanks, and \$125 per tank for single-walled. For ASTs, the fee is \$100 per tank for tanks with a capacity less than 25,000 gallons and \$200 per tank of 25,000 gallons or more. A “new tank” charge of \$100 per tank is a one-time fee in addition to the participation fee for both UST and AST tanks, payable during the first year of contractual coverage with PSTIF.

T&M has relied on projections of future revenues provided by the PSTIF. We have reviewed these projected revenues for reasonableness and found they are reasonable based on current economic conditions. However, T&M has not attempted to quantify the potential impact on PSTIF revenue of the COVID-19 pandemic, its effects on fuel consumption or the economy broadly, or the move to more fuel-efficient vehicles and to alternative vehicle fuels. In addition, no attempt has been made to quantify the impact of significant changes in fuel prices on the TLF revenue stream.

Projection of Future Cash Flows

T&M was asked to project cash flows to the PSTIF to the current proposed sunset date of December 31, 2030, or 6.5 fiscal years. To perform this analysis, we combined projections of future claim frequencies and severities, projections of future revenues, and projections of future expenses associated with the PSTIF's fund administrator.

Future paid losses were simulated based on assumed probability distributions for frequency, severity, and claim payment speeds. Simulated claim payment speeds also affected the payout speeds of unpaid claims from historical Report Years.

The following page shows the projected cash flows from July 1, 2024 through December 31, 2030 assuming no influx of claims due to the sunset of the PSTIF program:

Financial Projections Based on PSTIF 2024 Projections

	(A) Annual Revenues Fiscal Year:	(B) 2025	(C) 2026	(D) 2027	(E) 2028	(F) 2029	(G) 2030	(H) 2031 (1/2)	(I) Totals
(1)	Transport load fees	18,000,000	17,942,857	17,885,714	17,828,571	17,771,429	17,714,286	8,828,571	115,971,429
(2)	100 Initial tank fees	12,000	12,000	12,000	12,000	12,000	12,000	6,000	78,000
(3)	UST participation fees	780,000	780,000	780,000	780,000	780,000	780,000	390,000	5,070,000
(4)	AST participation fees	310,000	310,000	310,000	310,000	310,000	310,000	155,000	2,015,000
(5)	Interest income	1,351,100	759,183	795,654	829,515	861,626	892,096	459,205	5,948,378
(6)	Total Revenues	20,453,100	19,804,040	19,783,368	19,760,086	19,735,054	19,708,382	9,838,776	129,082,807
	Administrative Expenses Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(7)	Contracted Fund Administrator Expenses	1,798,480	1,762,510	1,727,260	1,692,715	1,658,861	1,625,683	796,585	11,062,095
(8)	Contingency & Special Projects	75,000	75,000	75,000	75,000	75,000	75,000	37,500	487,500
(9)	Office of Administration	125,328	129,088	132,960	136,949	141,058	145,290	74,824	885,497
(10)	OA State Accounting Software	74,521	-	-	-	-	-	-	74,521
(11)	Section 319.107 Expenses	10,000	10,300	10,609	10,927	11,255	11,593	5,970	70,654
(12)	Underwriting	679,900	700,297	721,306	742,945	765,233	788,190	405,918	4,803,790
(13)	Inspections	292,250	346,738	466,187	300,545	357,299	477,869	304,174	2,545,062
(14)	Training & Loss Prevention Services	6,000	6,180	6,365	6,556	6,753	6,956	3,582	42,393
(15)	Other Legal and Litigation Costs	150,000	154,500	159,135	163,909	168,826	173,891	89,554	1,059,815
(16)	Other Contract Administrative Costs	422,250	434,918	447,965	461,404	475,246	489,503	252,094	2,983,380
(17)	Audit	22,000	22,660	23,340	24,040	24,761	25,504	13,135	155,440
(18)	Actuarial Analyses	15,650	16,500	17,350	18,200	19,050	19,900	20,750	127,400
(19)	Department of Revenue	60,947	62,775	64,659	66,598	68,596	70,654	36,387	430,617
(20)	Attorney General's Office	54,170	55,795	57,469	59,193	60,969	62,798	32,341	382,735
(21)	PSTIF Board/Staff	515,581	531,048	546,980	563,389	580,291	597,700	307,815	3,642,805
(22)	Department of Natural Resources	2,542,959	2,619,248	2,697,825	2,778,760	2,862,123	2,947,986	1,518,213	17,967,114
(23)	Total Administrative Expenses	6,845,036	6,927,558	7,154,410	7,101,132	7,275,322	7,518,517	3,898,843	46,720,817
	Claim Payments Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(24)	Average / Expected	11,119,027	10,502,695	10,487,916	10,518,595	10,537,308	10,603,906	4,940,735	68,710,184
(25)	Cash balance @ 6/30/24	49,367,658							
	Funds Available at Fiscal Year-End:	2025	2026	2027	2028	2029	2030	2031 (1/2)	
(26)	Average / Expected	51,856,695	54,230,482	56,371,524	58,511,884	60,434,308	62,020,266	63,019,464	

Notes: Rows (1) through (22) from Financial Projections provided by PSTIF with some minor differences due to rounding.

This chart shows projected revenues, projected expenses, projected claim payments, and projected cash available at year-end. For example, the actuarial central estimate is that \$11.1 million in losses will be paid in fiscal year 2025 in addition to \$6.8 million in administrative expenses. Revenues are expected to total \$20.5 million, leaving a cash balance of \$51.9 million at fiscal year-end 2025. As of December 31, 2030, the actuarial central estimate suggests that there will be a remaining cash balance of approximately \$63.0 million. This balance assumes that the fund will sunset on December 31, 2030 and that there will be no increase in claim reporting as the fund sunset date approaches.

Exhibit E-19 expands on this chart by showing claim payments and the resulting cash balances at various confidence levels. For example, there is a 50% probability that the cash balance as of December 31, 2030 will be greater than or equal to \$63.5 million.

Exhibits E-20 through E-22 show alternative cash flow scenarios based on the possibility that claim reporting will increase if the fund approaches the sunset date. In these cases, we projected increases in remedial, closure, and “other” claims leading to increased claim costs in the first half of the 2030 fiscal year (at which time the fund is projected to be sunset). The financial results of these scenarios are also shown graphically in Exhibits E-15 through E-18.

The “Low Scenario” shown in Exhibit E-20 represents a small amount of claims ramp-up, while the “High Scenario” shown in Exhibit E-22 represents a large amount of claims ramp-up. Note that the payment streams under these scenarios are not markedly different since they reflect an anticipated ramp-up in claim reporting close to the fund sunset date, so there is not

much time for claims to be paid out. Where these scenarios will primarily differ is in the final liability as of the sunset date, for which the ramp-up scenarios will have a higher remaining unpaid liability.

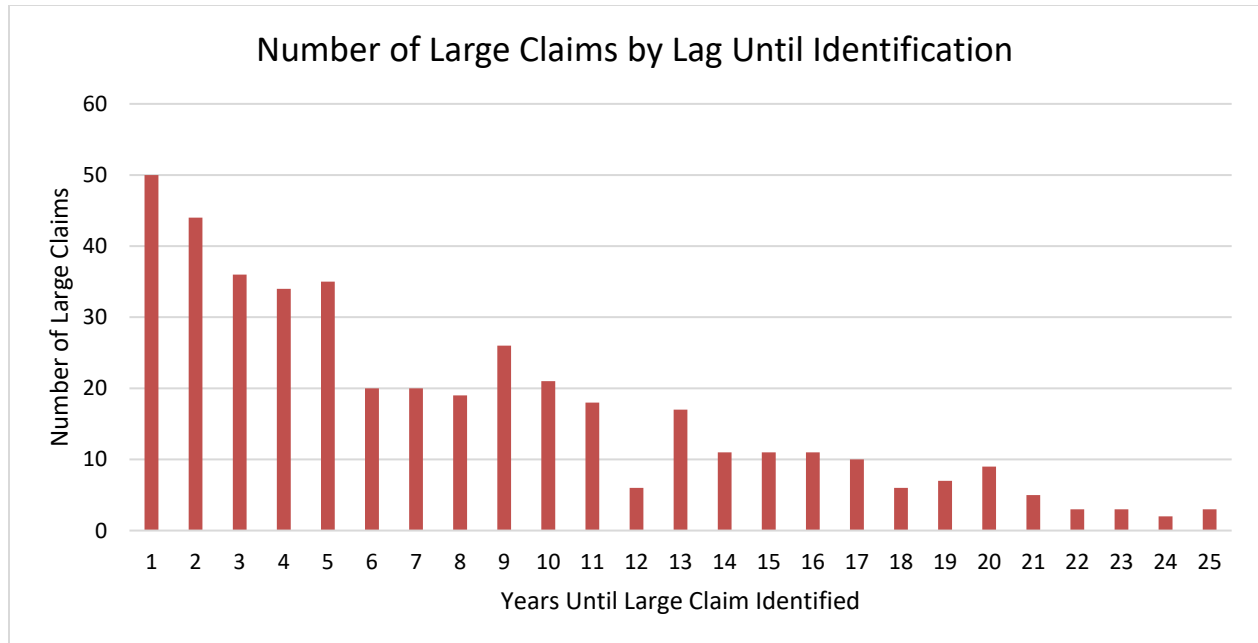
Exhibit E-23 provides the total projected claim payments for future fiscal years assuming no increase in claim activity. The first section of this exhibit displays future anticipated claim payments arising from currently reported claims (i.e., Report Years 2024 and prior). The second section displays claim payments arising from claims that will be reported in the future (Report Years 2024 and after). The third section displays the total of these two amounts.

Large Loss Claims

Large loss claims are defined as claims that meet or exceed the level of \$250,000. T&M performed several analyses of large loss claims. These analyses included (1) calculation of the amount of time after a claim is reported for it be identified as “large,” (i.e., for the sum of paid loss plus case reserves exceed the large claim threshold) (2) consideration of factors that increase the likelihood of a claim being a large claim, (3) consideration of reserving practices for large claims, and (4) consideration of the financial impact of large claims.

Using net incurred losses, T&M examined the current set of claims that have been identified as large. On average, these claims passed the \$250,000 incurred threshold right after the 8th report year. Specifically, the claims were identified as large on average at 96.92 months. The

following chart shows the number of large claims by the time it took to identify the claims as “large”:



This length of time is not unexpected. Development on storage tank claims is slow as compared with many other insured lines of business. There can be a significant period of gathering more information, remediating, of testing and monitoring sites, of further remediation, of possibly re-opening claims, etc., which can lead to a long time period between the initial report of the claim and a determination of the ultimate liability.

Additionally, it is often the case that reserving is performed based on what is the “most likely” outcome (i.e., the mode of the distribution of potential reserves). As a result of this, initial reserves for any line will tend to resemble the most common claims, with large claims identified only as information allows the adjuster to distinguish less common features of claims that might lead to a large claim. The following chart shows claims currently identified as large as a percent of total reported claims by Report Year:

Missouri Petroleum Storage Tank Insurance Fund
Large Claims as a Percent of Total Claims by Report Year
As of June 30, 2024

Report Year	Total Claims	Large Claims	Percent Large
1993	3	0	0.0%
1994	71	3	4.2%
1995	70	4	5.7%
1996	1,205	83	6.9%
1997	258	18	7.0%
1998	423	28	6.6%
1999	409	28	6.8%
2000	493	41	8.3%
2001	490	22	4.5%
2002	247	12	4.9%
2003	196	13	6.6%
2004	188	17	9.0%
2005	134	10	7.5%
2006	106	8	7.5%
2007	140	11	7.9%
2008	127	10	7.9%
2009	124	2	1.6%
2010	96	6	6.3%
2011	86	10	11.6%
2012	94	6	6.4%
2013	123	8	6.5%
2014	105	8	7.6%
2015	99	8	8.1%
2016	101	13	12.9%
2017	112	11	9.8%
2018	97	12	12.4%
2019	102	13	12.7%
2020	80	4	5.0%
2021	68	8	11.8%
2022	57	7	12.3%
2023	55	3	5.5%
2024	43	3	7.0%
Total	6,002	430	7.2%

Note that this chart does not include incident reports in the total number of claims.

In addition, the following breakdown shows the anticipated large losses and average lag time to identification of the claims as large by claim type:

Missouri Petroleum Storage Tank Insurance Fund Large Losses by Claim Type as of June 30, 2024				
Claim Type	Total Claims	Large Claims	Percent Large	Average Lag
Insurance UST - Release	353	47	13.3%	63
Insurance UST - Closure	1,793	80	4.5%	82
Insurance UST - Other	612	71	11.6%	119
Remedial UST	2,602	140	5.4%	125
Insurance AST	372	77	20.7%	56
Remedial AST	270	15	5.6%	128
Total	6,002	430	7.2%	97

The percentages in the above chart do not necessarily reflect the true risk that a claim may become large over time. For instance, Remedial UST claims make up the largest category of large claims but one of the smallest categories by percentage. This may partly be a reflection of the fact that many such sites had already been partly remediated before the PSTIF began issuing payments. As a result, the percentage may understate the true riskiness by claim type going forward.

It is anticipated that remediations associated with tank closures (“Insurance UST – Closure”) will continue to show relatively low risk of becoming large claims. Newer sites without legacy pollution and for which leak prevention has always been used will tend to have less catastrophic releases (if any) that went undetected. Therefore, tank closures at such sites are unlikely to lead to discovery of large losses. By contrast, many older sites with legacy pollution issues have already undergone remediation efforts since the PSTIF became active. Therefore,

tank closures at those sites may be less likely to result in large losses because the site has already been remediated recently.

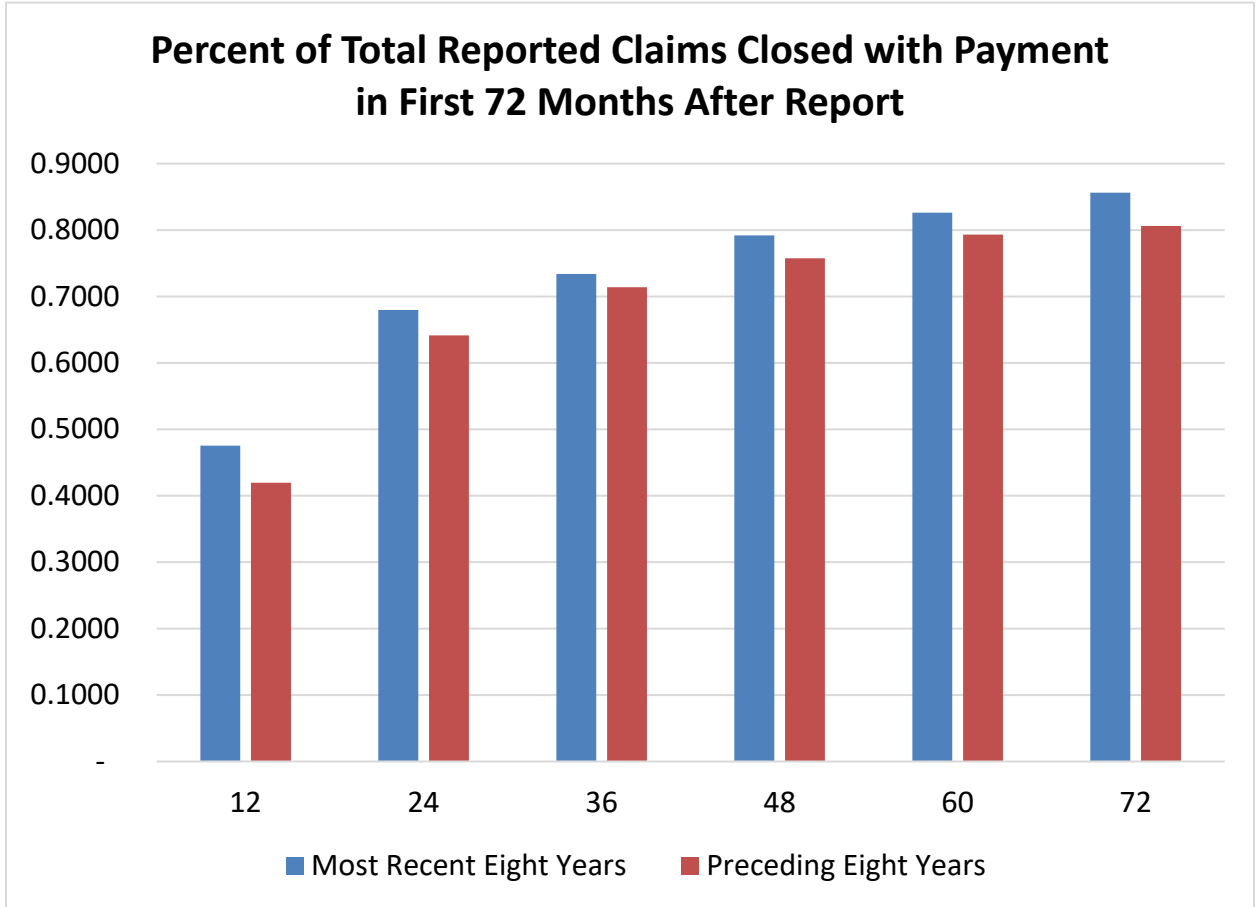
Large losses account for approximately \$209.4 million in incurred losses, or approximately 50.3% of incurred losses, despite accounting for only 7.2% of claims. These values are slightly higher than those determined at the time of the previous analysis but continue to be consistent with expectations and historical numbers.

Settlement Speed

The Board's staff has undertaken significant efforts to improve the speed with which claims come to closure in recent years. However, because such changes are always incremental in nature, it often takes a long time to see them borne out in data. It is worth noting that the time to settlement is contingent on many factors and several of these factors are outside the control of the PSTIF. For example, PSTIF does not make the final determination that a cleanup is complete, but rather, this decision is made by the MoDNR.

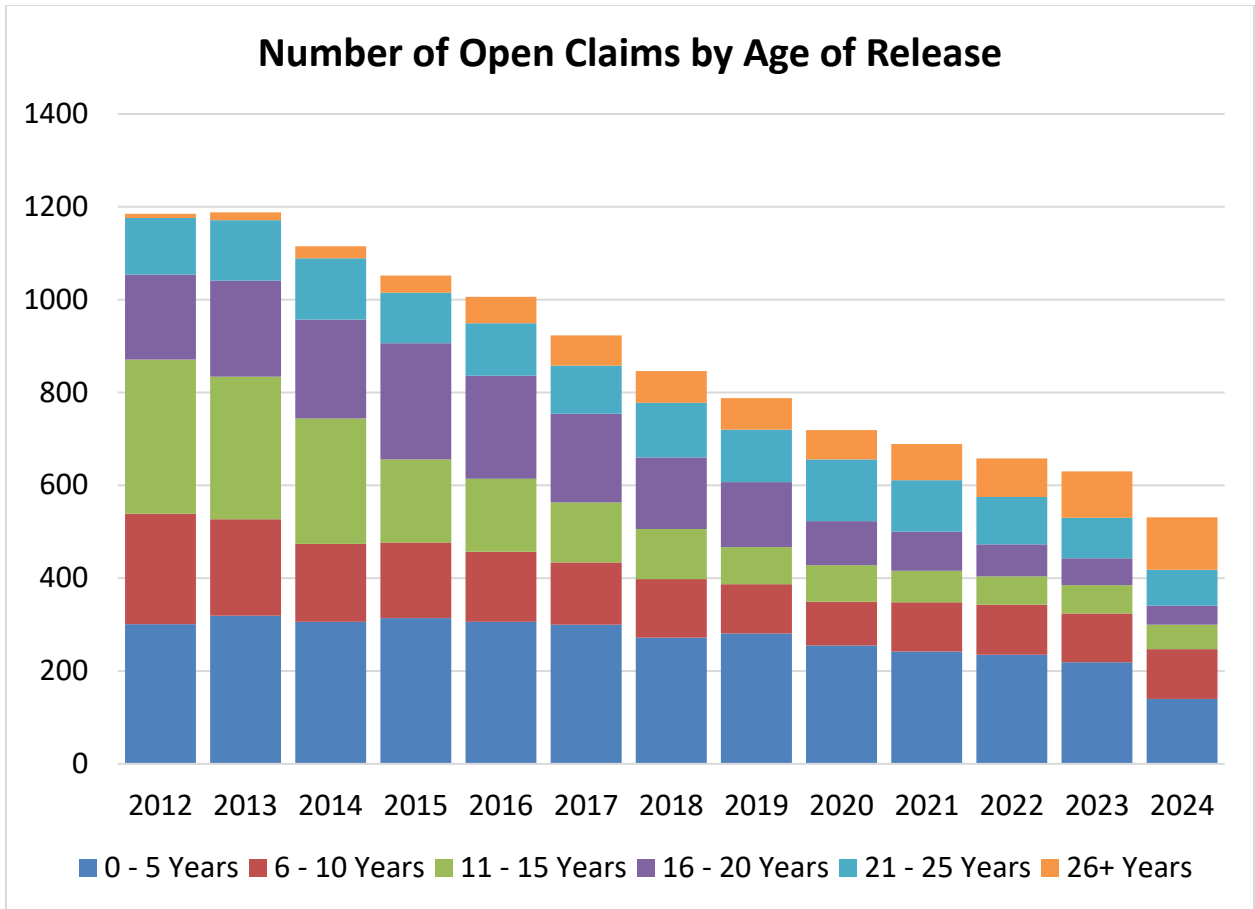
This year, Taylor & Mulder reviewed the rate at which claims are closed. It is our conclusion that claim closure rates for newly reported claims have generally improved over time.

The following chart shows the percent of claims closed at each maturity for the first 72 months for the most recent eight calendar years (2017 – 2024) and for the preceding eight years (2009 – 2016):



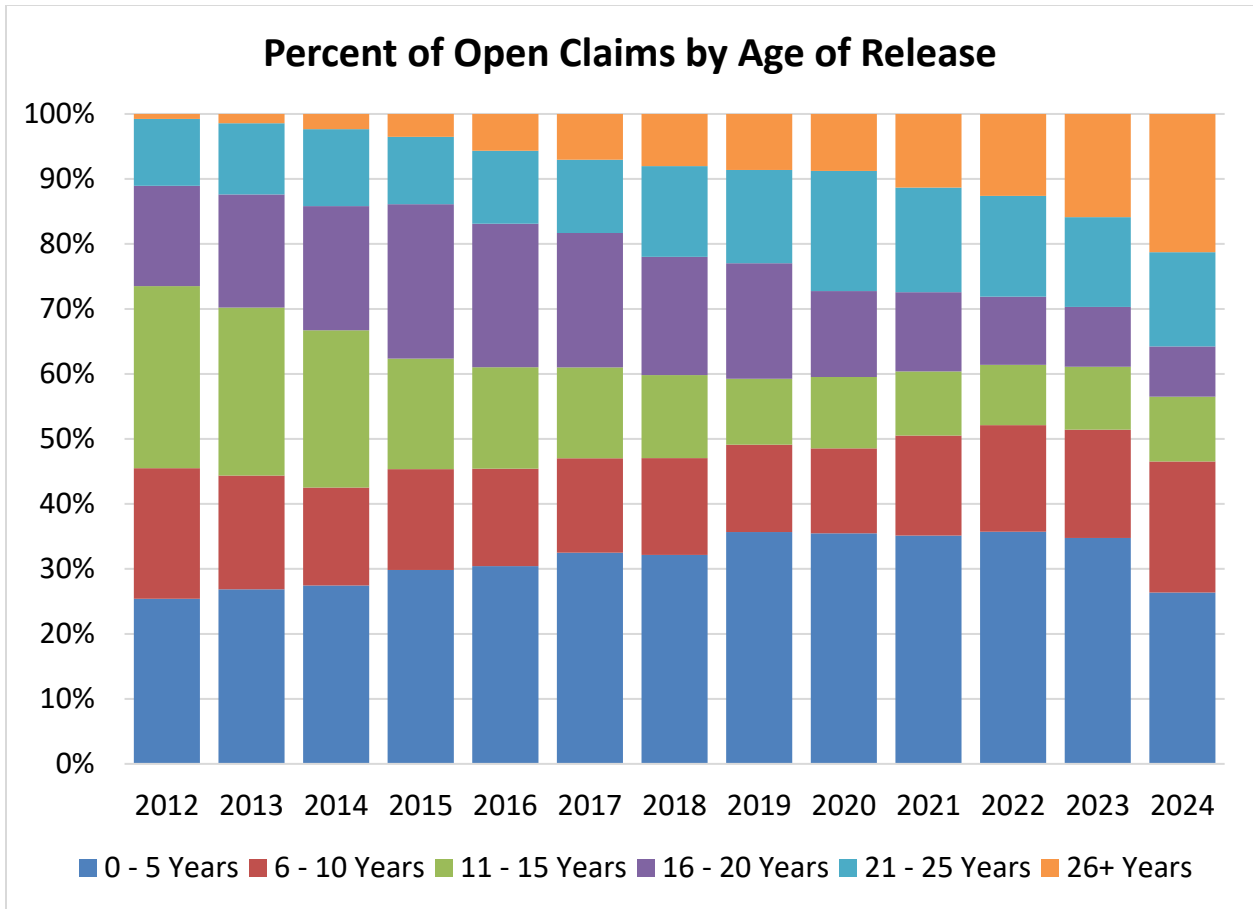
This chart shows that in the most recent eight fiscal years, the percentage of claims closed at each age is higher than for the preceding eight fiscal years.

This speedup in claim closures has apparently accelerated the reduction in open claims over time. The following chart shows the number of open claims by age of release:



Evidently, the number of claims between 0-5 years old has declined modestly in recent years, as have all categories of claims under 20 years old. However, the number of claims greater than 20 years old has increased modestly over the most recent five years, as claims appear to “age into” that category at a rate slightly faster than the rate at which the claims are closed.

As a result of this decrease in overall volume of open claims, coupled with the stable or slightly growing number of claims greater than 20 years old, the relative proportion of claims greater than 20 years old has increased in recent years:



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Conditions and Limitations

The analyses contained in this report were performed using accepted loss and loss adjustment expense reserving methods adjusted to the special needs of the PSTIF and in conformance with sound actuarial standards and principles. T&M introduced assumptions and judgments that we considered appropriate in the circumstances.

With regard to projections of ultimate values, it should be understood that the emergence and settlement of claims are subject to uncertainty. While we have used our best professional judgment in all instances, projections of future ultimate losses and loss expenses are inherently uncertain because of the random nature of claims occurrences. They are also dependent upon future contingent events and are affected by many additional factors.

PSTIF claim reserving procedures and settlement philosophy, current and perceived social and economic inflation, current and future court and jury attitudes, legislative changes affecting the PSTIF, improvements in technology, and many other economic, legal, political, legislative and social factors all can have significant effects on ultimate claim costs. Therefore, we cannot warrant that actual developments will not differ from current projections. Such differences could be upward or downward and could be significant.

In summary, the ultimate loss and loss adjustment expense levels estimated in this report are subject to potential variations in estimation due to:

- (1) the fact that the ultimate liability of PSTIF is subject to the outcome of events yet to occur;

- (2) the unanticipated changes in the legal, economic, legislative or claims adjudication environments;
- (3) statistical fluctuation in losses around the estimated or expected values when all other factors remain constant; and
- (4) the fact that the actual future loss and loss payment and reporting patterns may differ from those applied in the determination of the expected losses or there may be unanticipated changes in the loss and expense loss and expense payment and reporting patterns;

Accordingly, no assurance can be given that future loss emergence will not deviate from the estimated ultimate loss and loss adjustment expenses. However, the ultimate loss and loss adjustment expense estimates were based on a reasonable application of generally accepted actuarial procedures and techniques applied to the information available.

We reviewed the information for overall reasonableness and presented any irregularities to the PSTIF contracted fund administrator for edification and clarification.

T&M relied without audit or verification on historical loss, loss adjustment expense, exposure data, and other information provided by the PSTIF and its employees. T&M has relied upon the data provided and on the oral and/or written statements made regarding the quality, accuracy, and completeness of the data and information supplied. Any inaccuracies or inconsistencies in the data could have a significant effect on the conclusions drawn.

Should any inaccuracies be found in the data, T&M should be notified immediately so that the analysis can be adjusted accordingly.

With regard to projections of estimated revenues, it should be understood that the revenue streams are subject to uncertainty. While we have used our best professional judgment in all instances, projections of future revenues are inherently uncertain due to potential changes in technology, the implementation of environmental requirements, the introduction of alternative vehicle fuels, and changes in the economy among others. While T&M has used its best judgment in selecting trend values for each category of revenue, actual revenue collected is dependent upon unknown future events and may be affected by additional factors outside of PSTIF control.

T&M reflected anticipated investment income in the reserves assuming a 1.5% annual rate of return on investments. We did not independently verify the ability of the PSTIF to match this assumed rate.

The analysis in this report was limited to the loss and loss adjustment expense items noted in the scope of this project. This report does not include an examination of the assets of the PSTIF, nor did we form any opinion as to the value or validity of the assets. This report does not include a review or analysis of any income statement or other balance sheet items. This analysis with respect to loss and loss adjustment expense reserves is based upon the assumption that all reserves are backed by valid assets and that these assets reflect suitably scheduled maturities and/or sufficient liquidity to meet cash flow requirements.

This report is limited in scope to the estimate of the level of reserve adequacy at the evaluation date of the report. It also includes projections regarding cash flow of the operations of the PSTIF under certain narrow assumptions and conditions.

This report was prepared for use by persons technically competent in insurance financial matters. Persons receiving this report should be made aware of the availability of T&M, Inc. personnel to answer questions and/or amplify on any matter addressed therein.

Actuarial Analysis

Sources of Data

Data was provided by Ms. Kelley Ogletree with the PSTIF and Ms. Dorcee Lauen with Williams & Company Consulting, Inc., PSTIF's contracted fund administrator, in the form of several files. A full description of the names and contents of these files may be found as an appendix at the end of this report. In addition, we received additional information from interviews with PSTIF management and Williams' personnel, as well as from the PSTIF website, www.pstif.org.

Overall Methodology

Selection of Factors

In each of the methods described below, our selections of development factors were based on the evaluation of the predictive value of the various historical averages and the perceived presence or absence of trends and singularities. Apparent statistical aberrations were eliminated either judgmentally or by selecting a longer experience period to increase the credibility of the experience, whichever we believed more appropriate in the particular circumstances.

Paid Development Method

The paid development method uses historical loss payment patterns to project actual payments as of a given valuation date to ultimate. The PSTIF's historical payment patterns or the fitted loss development factors were relied upon in selecting the expected payment patterns at each evaluation. The difference between the projected ultimate losses and the losses and allocated

loss adjustment expenses paid through the evaluation date is the estimated reserve as of the evaluation date.

Estimates produced using the paid development method are not affected by changes in the case reserve position of the PSTIF which might have occurred during the review period, but may be understated since they ignore large unpaid claims. Also, this method may be susceptible to any changes in case settlement philosophy and/or speed of payment.

Incurred Development Method

The incurred, or reported, development method is similar to the paid development method and uses historical reporting patterns to project actual reported amounts (excluding IBNR) as of a given evaluation date to ultimate. The difference between the projected ultimate losses and the losses paid through the evaluation date is the estimated reserve as of the evaluation date.

In many situations, the incurred development method is preferred over the paid method since large open but unpaid claims are considered. This method is more responsive to changes in the external business environment, since changes in liability laws, legislative changes affecting the PSTIF, court decisions and other external factors are generally reflected in the case reserves as soon as claims management becomes aware of them. As a result, the incurred loss development factors at each stage of development tend to be lower, and more stable, than those of the corresponding paid development method. However, the incurred development method may be affected by changes in case reserving practices over time and, to a lesser extent, also may be affected by changes in claims settlement rates.

Bornhuetter-Ferguson Methods

Loss development methods may be affected by changes in the reporting and payment of claims. Random fluctuations in the reporting and payment of claims (such as may result from a single unusually large claim) are magnified by the development factors, potentially resulting in biased estimates and wide changes in the estimates from one evaluation to the next. To minimize such fluctuations, we applied the Bornhuetter-Ferguson method to incurred losses and to paid losses. The Bornhuetter-Ferguson method is particularly suited for projecting loss reserves for longer-tailed business with volatile or limited development patterns. The Bornhuetter-Ferguson method represents a compromise between traditional loss development methods such as the incurred and paid loss development methods and an expected loss ratio method.

For the incurred Bornhuetter-Ferguson method, initial expected losses are established for each accident year to be consistent with projected pure premium amounts, i.e. projected losses divided by an exposure base (in this case, covered tanks in-force for insurance claims or remaining potential remediation sites for remedial claims). These initial expected losses are then split into two components: expected reported losses and expected unreported losses. The expected unreported losses, which comprise the IBNR and bulk reserves for each accident year, are calculated as a function of the earned premium, the initial expected loss ratio, and the expected portion of ultimate losses that remains unreported or unreserved as of the evaluation date.

For the paid Bornhuetter-Ferguson method, initial expected losses are also derived from projected pure premium amounts. These initial expected losses are then split into two components: expected paid losses and expected unpaid losses. The expected unpaid losses, which comprise the IBNR and case reserves for each accident year, are calculated as a function of the initial expected loss ratio, the initial expected ultimate losses, and the expected portion of ultimate losses that remains unpaid as of the evaluation date.

Projection Methodologies for Cash Flow Analysis

Several overlapping projection methodologies were used to perform the cash flow analysis. First, regression techniques were used to project claim frequency and severity into future periods. These projections were then converted into parameters for a simulation model.

The simulation model used a Poisson distribution to predict the number of claims of each category for each Report Year. For each predicted claim, a lognormal distribution was then generated as the prediction of the ultimate size of that claim. For example, one trial of the simulation might predict that there would be 10 UST Insurance (Release) claims in a given Report Year. Each of those 10 claims would have a simulated claim size drawn from the lognormal distribution.

Repeating this process 10,000 times for each claim type and for each Report Year from 2025 to 2031, we obtained a set of potential ultimate losses that represent a probability distribution of outcomes, where more common answers represent more likely outcomes.

Historical losses were simulated using incurred loss development triangles. For each triangle, the loss development factors were simulated using normal distributions for each development period. The mean for each development period was selected to be the actuarial central estimate, while the standard deviation was selected to be the standard deviation of the historical LDFs.

For both historical and future claims, anticipated future payments by fiscal year were determined by applying fixed projected payment patterns to unpaid losses to determine the anticipated timing of future payments.

Combining these projections, we obtained an estimate of the range of possibilities for loss payments over time. We compared these loss payment projections to revenue projections to obtain an estimate of the range of possible outcomes for cash flows over time.

Methodology by Claim Type

Long-tailed lines of business have some important properties. These are lines of business for which claim payments can extend over a very long period (10 years or more) before closure. As claim payments are made over a long-time horizon, the first few years after a claim is reported may have little or no actual claim payments. This produces relatively low paid losses at early maturities, and as a result, payment patterns can be strongly affected by small random fluctuations in payments from year to year.

The long payment pattern has a substantial effect on most categories of PSTIF claims. Paid losses at early maturities have shown extreme volatility, and as a result, paid losses have very low credibility (i.e., statistical stability) for some categories of claims.

By contrast, incurred losses have shown greater stability. When a claim is reported to the PSTIF, a reserve is established based on the expected ultimate loss for the claim. As the claim matures and losses are paid out, the incurred loss may be increased or decreased commensurate with the adjuster's interpretation of the ultimate value of the claim. In this case, the first estimate by the adjusters is close enough to the ultimate loss that development is low when compared to paid losses. Because development patterns for incurred losses were more stable over time, incurred loss development methods received greater relative weight in our analysis.

Incurred loss development, by contrast, is stable. Incurred losses do not undergo the same extreme changes as paid losses, making estimates from incurred losses more credible. In some cases, incurred loss development is modestly negative, implying that early reserve estimates are slightly over-stated. However, these trends seem to reverse at later maturities, returning incurred losses on average to slightly higher than the initial reserves as of 12 months.

When relatively little credibility could be placed in the loss development patterns observed in paid or incurred losses, higher reliance was placed on the Bornhuetter-Ferguson methods. These methods produce estimates that are not as significantly influenced by random variations in claim payout or reporting speeds, but are highly stable from year to year and are a reflection of the overall level of exposure.

Selections of Ultimate Losses

Generally, the selection of ultimate losses was based on selecting incurred loss development method for older years, as this method seemed to give the best result. In years where there was great variability, particularly more recent Report Years, we selected a combination of methods (including the Bornhuetter-Ferguson method) to provide greater stability in results.

Any exceptions to the above description were based on our review of the methods combined with our knowledge of specific accident years and other considerations as described in the background section of our report.

Loss Reserve Discounting

T&M reflected anticipated investment income on reserves using an assumed discount rate of 1.5%. This rate was based on historical yields by the State as of June 30, 2024. We did not independently verify the ability of the PSTIF to match these rates at June 30, 2024.

The undiscounted reserves and the discounted reserves are shown in the summary section of our report. The future payout of the undiscounted recommended reserve from 2025 to 2033 separately and for years subsequent to fiscal year 2033 on a combined basis is also provided in this section.

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types
Executive Summary - Unpaid Losses & ALAE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Case		Unpaid	Undiscounted		Discounted
<u>Claim Type</u>	<u>Reserve</u>	<u>IBNR</u>	<u>ALAE</u>	<u>Unpaid</u> <u>Loss & ALAE</u>	<u>Discount</u>	<u>Unpaid</u> <u>Loss & ALAE</u>
Insurance UST - Release	7,819,497	5,505,595	79,510	13,404,602	1,176,663	12,227,940
Insurance UST - Closure	10,298,865	6,864,470	102,412	17,265,748	1,574,912	15,690,836
Insurance UST - Other	5,474,909	5,124,536	63,246	10,662,691	863,089	9,799,602
Remedial UST	16,010,020	3,227,072	114,786	19,351,879	2,078,123	17,273,755
Insurance AST	16,163,366	10,214,600	157,396	26,535,361	2,444,321	24,091,041
Remedial AST	2,378,627	68,209	14,600	2,461,437	189,302	2,272,135
Total	58,145,285	31,004,483	531,951	89,681,718	8,326,410	81,355,308

Notes:
Col (5) = (2) + (3) + (4)
Col (7) = (5) - (6)

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types
Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)
<u>RY</u>	<u>PAID LDM ULTIMATE</u>	<u>INC LDM ULTIMATE</u>	<u>PAID BF ULTIMATE</u>	<u>INC BF ULTIMATE</u>	<u>SELECTED ULTIMATE</u>
1994	4,882,101	4,774,780	-	-	4,774,780
1995	4,387,026	4,387,026	-	-	4,387,026
1996	78,899,507	78,709,784	-	-	78,709,784
1997	19,880,038	19,526,331	-	-	19,638,812
1998	31,121,585	30,581,442	-	-	30,844,056
1999	25,865,290	25,515,287	-	-	25,581,385
2000	35,691,903	35,478,867	-	-	35,478,867
2001	16,800,057	16,682,405	-	-	16,682,405
2002	15,709,498	15,491,379	-	-	15,491,379
2003	13,056,250	12,974,399	-	-	12,974,399
2004	16,515,512	16,322,894	-	-	16,322,894
2005	11,900,440	11,744,053	-	-	11,744,053
2006	9,352,123	9,166,517	-	-	9,166,517
2007	10,549,079	10,059,989	-	-	10,059,989
2008	9,020,082	8,775,868	9,240,773	8,771,297	8,730,639
2009	6,221,721	6,020,425	6,763,103	6,128,040	6,020,425
2010	5,270,646	5,450,272	5,383,229	5,627,311	5,450,272
2011	9,935,122	10,159,309	9,094,689	10,005,213	10,141,629
2012	8,362,361	7,796,243	8,851,387	7,922,587	7,941,498
2013	8,652,716	8,575,587	8,815,615	8,600,309	8,467,192
2014	7,408,422	7,669,787	7,551,915	7,837,462	7,736,799
2015	12,417,688	11,502,278	11,471,989	11,210,658	11,549,688
2016	9,592,763	9,981,847	9,299,362	9,899,640	9,784,347
2017	12,335,953	12,370,240	11,005,926	11,852,037	11,961,529
2018	10,176,865	10,603,753	10,019,174	10,404,310	10,359,043
2019	13,227,911	12,991,735	11,452,243	12,120,334	12,562,463
2020	5,597,340	6,283,181	7,681,203	7,097,556	6,652,966
2021	9,360,331	10,092,223	9,377,483	9,982,301	9,542,532
2022	11,198,928	10,950,026	10,257,519	10,610,071	10,587,399
2023	9,283,524	8,901,680	9,557,151	9,189,497	9,132,880
2024	9,613,346	6,603,311	9,423,380	8,334,316	8,377,160
TOTAL	452,286,131	446,142,918	155,246,141	155,592,939	446,854,809

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types
Summary of Case & IBNR Reserves

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<u>RY</u>	<u>SELECTED</u> <u>ULTIMATE</u>	<u>PAID</u> <u>LOSS</u>	<u>INCURRED</u> <u>LOSS</u>	<u>CASE</u> <u>RESERVE</u>	<u>IBNR</u> <u>RESERVE</u>	<u>UNPAID</u> <u>LOSS</u>	<u>PAID</u> <u>ALAE</u>	<u>UNPAID</u> <u>ALAE</u>	<u>ULTIMATE</u> <u>ALAE</u>	<u>ULTIMATE</u> <u>LOSS & ALAE</u>	<u>UNPAID</u> <u>LOSS & ALAE</u>
1994	4,774,780	4,464,554	4,774,780	310,226	-	310,226	7,777	1,851	9,628	4,784,408	312,077
1995	4,387,026	4,187,026	4,387,026	200,000	-	200,000	9,365	1,193	10,558	4,397,584	201,193
1996	78,709,784	72,175,959	78,709,784	6,533,825	-	6,533,825	139,514	38,987	178,501	78,888,285	6,572,812
1997	19,638,812	18,839,759	19,526,331	686,572	112,481	799,053	44,586	4,768	49,354	19,688,166	803,821
1998	30,844,056	28,208,646	30,581,442	2,372,796	262,614	2,635,410	88,045	15,725	103,770	30,947,826	2,651,136
1999	25,581,385	24,101,585	25,515,287	1,413,702	66,098	1,479,800	79,306	8,830	88,136	25,669,521	1,488,630
2000	35,478,867	31,678,844	35,421,183	3,742,338	57,684	3,800,023	92,942	22,674	115,617	35,594,483	3,822,697
2001	16,682,405	14,722,235	16,670,595	1,948,360	11,810	1,960,170	57,288	11,696	68,984	16,751,389	1,971,866
2002	15,491,379	14,377,471	15,463,570	1,086,100	27,809	1,113,908	49,920	6,647	56,567	15,547,946	1,120,555
2003	12,974,399	11,602,206	12,930,930	1,328,723	43,469	1,372,192	56,525	8,188	64,712	13,039,111	1,380,380
2004	16,322,894	14,494,744	16,220,624	1,725,880	102,271	1,828,151	138,979	10,908	149,888	16,472,782	1,839,059
2005	11,744,053	9,912,799	11,589,855	1,677,057	154,198	1,831,254	111,000	10,927	121,927	11,865,980	1,842,181
2006	9,166,517	7,937,433	8,937,760	1,000,327	228,757	1,229,085	66,787	7,334	74,121	9,240,639	1,236,419
2007	10,059,989	9,482,898	9,856,541	373,643	203,448	577,091	98,631	3,443	102,075	10,162,064	580,535
2008	8,730,639	8,101,508	8,500,349	398,841	230,290	629,132	40,755	3,754	44,509	8,775,149	632,886
2009	6,020,425	5,491,076	5,812,077	321,001	208,348	529,349	30,170	3,159	33,329	6,053,754	532,508
2010	5,450,272	3,985,006	5,237,767	1,252,762	212,505	1,465,266	33,062	8,743	41,805	5,492,077	1,474,009
2011	10,141,629	7,434,976	9,501,983	2,067,007	639,646	2,706,653	36,882	16,150	53,033	10,194,662	2,722,804
2012	7,941,498	6,898,924	7,336,977	438,053	604,522	1,042,575	33,756	6,221	39,977	7,981,475	1,048,796
2013	8,467,192	6,590,917	7,785,890	1,194,973	681,303	1,876,276	30,290	11,196	41,486	8,508,678	1,887,471
2014	7,736,799	5,091,236	6,900,102	1,808,866	836,698	2,645,564	28,652	15,786	44,438	7,781,237	2,661,349
2015	11,549,688	8,714,456	10,160,399	1,445,943	1,389,289	2,835,232	47,306	16,918	64,224	11,613,912	2,852,150
2016	9,784,347	6,153,943	8,663,322	2,509,379	1,121,025	3,630,404	27,283	21,662	48,945	9,833,292	3,652,066
2017	11,961,529	7,508,123	10,220,285	2,712,162	1,741,244	4,453,406	42,424	26,573	68,997	12,030,526	4,479,979
2018	10,359,043	6,061,169	8,558,476	2,497,307	1,800,567	4,297,874	31,332	25,645	56,977	10,416,020	4,323,519
2019	12,562,463	7,106,341	9,988,734	2,882,392	2,573,730	5,456,122	43,232	32,556	75,788	12,638,252	5,488,678
2020	6,652,966	2,613,615	4,607,975	1,994,360	2,044,991	4,039,352	18,747	24,103	42,850	6,695,816	4,063,454
2021	9,542,532	3,626,126	7,135,636	3,509,511	2,406,896	5,916,406	21,235	35,303	56,538	9,599,070	5,951,709
2022	10,587,399	3,665,176	7,208,127	3,542,950	3,379,272	6,922,222	25,262	41,304	66,567	10,653,965	6,963,527
2023	9,132,880	1,930,067	5,039,537	3,109,469	4,093,343	7,202,813	19,738	42,979	62,716	9,195,596	7,245,791
2024	8,377,160	546,226	2,606,985	2,060,759	5,770,175	7,830,934	11,135	46,727	57,861	8,435,021	7,877,661
TOTAL	446,854,809	357,705,042	415,850,327	58,145,285	31,004,483	89,149,768	1,561,928	531,951	2,093,879	448,948,688	89,681,718

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Release
Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)
<u>RY</u>	<u>PAID LDM ULTIMATE</u>	<u>INC LDM ULTIMATE</u>	<u>PAID BF ULTIMATE</u>	<u>INC BF ULTIMATE</u>	<u>SELECTED ULTIMATE</u>
1994	246,661	246,661	-	-	246,661
1995	241,953	241,953	-	-	241,953
1996	2,255,030	2,255,030	-	-	2,255,030
1997	1,995,927	1,995,927	-	-	1,995,927
1998	1,367,581	1,352,666	-	-	1,352,666
1999	142,573	142,573	-	-	142,573
2000	1,817,407	1,817,407	-	-	1,817,407
2001	1,089,419	1,084,144	-	-	1,084,144
2002	713,587	713,587	-	-	713,587
2003	1,980,868	1,980,868	-	-	1,980,868
2004	1,355,398	1,310,240	-	-	1,310,240
2005	1,680,933	1,680,933	-	-	1,680,933
2006	161,243	161,433	-	-	161,433
2007	2,543,299	2,419,487	-	-	2,419,487
2008	2,143,880	2,034,124	2,072,942	2,029,429	2,034,124
2009	879,624	885,145	912,666	887,920	885,145
2010	674,592	691,783	628,295	708,522	691,783
2011	2,343,711	2,298,623	2,217,256	2,257,851	2,298,623
2012	1,096,407	1,015,985	1,161,483	1,037,855	1,077,933
2013	311,900	327,307	576,696	420,726	353,311
2014	1,884,435	1,981,653	1,812,840	1,946,021	1,906,237
2015	3,501,276	3,131,392	2,981,105	2,968,291	3,316,334
2016	1,722,763	1,926,815	1,707,976	1,895,786	1,824,789
2017	1,846,209	1,597,976	1,807,577	1,616,267	1,756,684
2018	1,163,322	1,185,589	1,398,909	1,289,282	1,344,095
2019	568,414	662,344	1,105,539	912,910	893,598
2020	1,439,229	1,743,197	1,673,784	1,780,403	1,618,737
2021	1,764,698	2,011,962	1,887,912	2,001,449	1,888,191
2022	3,805,144	3,169,366	2,569,648	2,806,444	2,848,486
2023	1,580,463	1,705,618	2,007,929	1,859,924	1,788,484
2024	2,788,505	1,632,618	2,186,189	1,912,883	1,910,563
TOTAL	47,106,450	45,404,406	28,708,746	28,331,966	45,840,024

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Release
Summary of Case & IBNR Reserves

(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>RY</u>	<u>SELECTED</u> <u>ULTIMATE</u>	<u>PAID</u> <u>LOSS</u>	<u>INCURRED</u> <u>LOSS</u>	<u>CASE</u> <u>RESERVE</u>	<u>IBNR</u> <u>RESERVE</u>	<u>UNPAID</u> <u>LOSS</u>
1994	246,661	246,661	246,661	-	-	-
1995	241,953	241,953	241,953	-	-	-
1996	2,255,030	1,392,387	2,255,030	862,643	-	862,643
1997	1,995,927	1,995,927	1,995,927	-	-	-
1998	1,352,666	1,340,765	1,352,666	11,900	-	11,900
1999	142,573	142,573	142,573	-	-	-
2000	1,817,407	1,772,486	1,817,407	44,921	-	44,921
2001	1,084,144	1,064,144	1,084,144	20,000	-	20,000
2002	713,587	644,203	713,587	69,383	-	69,383
2003	1,980,868	1,980,868	1,980,868	-	-	-
2004	1,310,240	1,305,456	1,310,240	4,785	-	4,785
2005	1,680,933	1,009,263	1,680,933	671,670	-	671,670
2006	161,433	161,243	161,243	-	189	189
2007	2,419,487	2,381,747	2,412,265	30,519	7,222	37,740
2008	2,034,124	1,968,385	2,021,507	53,122	12,617	65,739
2009	885,145	783,624	879,624	96,000	5,521	101,521
2010	691,783	462,377	674,592	212,214	17,191	229,405
2011	2,298,623	2,021,632	2,191,528	169,896	107,096	276,991
2012	1,077,933	910,479	968,116	57,637	109,817	167,454
2013	353,311	244,337	301,974	57,637	51,337	108,974
2014	1,906,237	1,440,421	1,805,599	365,178	100,638	465,816
2015	3,316,334	2,533,333	2,793,537	260,204	522,797	783,001
2016	1,824,789	1,200,561	1,690,349	489,788	134,440	624,227
2017	1,756,684	1,228,971	1,377,685	148,715	378,999	527,714
2018	1,344,095	734,336	986,206	251,870	357,889	609,760
2019	893,598	324,921	519,267	194,346	374,331	568,676
2020	1,618,737	698,864	1,316,495	617,631	302,242	919,873
2021	1,888,191	719,056	1,474,025	754,968	414,166	1,169,134
2022	2,848,486	1,161,602	2,162,695	1,001,093	685,791	1,686,884
2023	1,788,484	256,734	1,022,401	765,667	766,083	1,531,750
2024	1,910,563	145,623	753,332	607,709	1,157,231	1,764,940
TOTAL	45,840,024	32,514,932	40,334,429	7,819,497	5,505,595	13,325,092

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Closure
Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)
<u>RY</u>	<u>PAID LDM</u> <u>ULTIMATE</u>	<u>INC LDM</u> <u>ULTIMATE</u>	<u>PAID BF</u> <u>ULTIMATE</u>	<u>INC BF</u> <u>ULTIMATE</u>	<u>SELECTED</u> <u>ULTIMATE</u>
1994	1,128,314	1,128,314	-	-	1,128,314
1995	830,629	830,629	-	-	830,629
1996	3,877,028	3,877,028	-	-	3,877,028
1997	4,772,650	4,643,906	-	-	4,643,906
1998	5,964,475	5,964,475	-	-	5,964,475
1999	9,958,689	9,740,883	-	-	9,740,883
2000	5,754,527	5,483,807	-	-	5,483,807
2001	2,321,382	2,227,492	-	-	2,227,492
2002	4,528,631	4,434,626	-	-	4,434,626
2003	4,136,003	4,151,887	-	-	4,151,887
2004	2,449,524	2,432,148	-	-	2,432,148
2005	2,914,840	2,787,260	-	-	2,787,260
2006	1,780,461	1,800,439	-	-	1,800,439
2007	4,269,279	4,089,201	-	-	4,089,201
2008	3,072,314	3,088,901	3,080,416	3,090,260	3,088,901
2009	2,258,063	2,091,762	2,370,700	2,121,857	2,091,762
2010	2,115,201	2,180,416	2,247,138	2,215,722	2,180,416
2011	1,856,540	1,668,228	2,035,880	1,737,022	1,668,228
2012	2,896,229	2,615,206	2,886,008	2,632,377	2,615,206
2013	4,020,533	4,255,150	3,769,362	4,119,411	4,015,015
2014	3,125,311	3,380,504	3,027,939	3,307,402	3,210,289
2015	2,631,957	2,819,328	2,620,783	2,791,812	2,715,970
2016	2,423,332	2,385,986	2,447,811	2,403,489	2,415,155
2017	2,802,664	2,801,978	2,694,904	2,749,102	2,762,162
2018	3,288,167	3,106,069	2,991,108	2,989,088	3,093,608
2019	3,295,490	3,219,756	2,914,987	3,048,163	3,119,599
2020	954,665	968,906	1,501,329	1,212,837	1,357,083
2021	1,903,987	2,490,248	1,896,957	2,416,697	2,176,972
2022	3,231,962	2,773,564	2,576,208	2,570,843	2,640,205
2023	2,852,853	3,112,725	2,279,018	2,663,170	2,598,347
2024	50,005	145,446	1,839,154	1,346,948	1,593,051
TOTAL	97,465,707	96,696,269	43,179,700	43,416,201	96,934,063

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Closure
Summary of Case & IBNR Reserves

(1) RY	(2) SELECTED ULTIMATE	(3) PAID LOSS	(4) INCURRED LOSS	(5) CASE RESERVE	(6) IBNR RESERVE	(7) UNPAID LOSS
1994	1,128,314	848,088	1,128,314	280,226	-	280,226
1995	830,629	830,629	830,629	-	-	-
1996	3,877,028	3,877,028	3,877,028	-	-	-
1997	4,643,906	4,531,150	4,643,906	112,756	-	112,756
1998	5,964,475	5,269,003	5,964,475	695,472	-	695,472
1999	9,740,883	9,423,681	9,740,883	317,202	-	317,202
2000	5,483,807	5,442,164	5,483,807	41,643	-	41,643
2001	2,227,492	2,190,054	2,227,492	37,438	-	37,438
2002	4,434,626	4,257,908	4,418,120	160,211	16,506	176,717
2003	4,151,887	3,457,659	4,136,003	678,344	15,884	694,227
2004	2,432,148	2,279,382	2,419,322	139,941	12,826	152,767
2005	2,787,260	2,682,736	2,770,415	87,679	16,844	104,523
2006	1,800,439	1,383,313	1,780,461	397,148	19,978	417,126
2007	4,089,201	3,802,372	4,012,126	209,753	77,076	286,829
2008	3,088,901	2,687,058	3,001,472	314,414	87,429	401,843
2009	2,091,762	1,945,535	2,027,535	82,000	64,228	146,228
2010	2,180,416	1,786,879	2,082,322	295,443	98,093	393,536
2011	1,668,228	1,539,584	1,575,584	36,000	92,644	128,644
2012	2,615,206	2,346,795	2,417,514	70,719	197,692	268,411
2013	4,015,015	3,212,616	3,866,080	653,464	148,935	802,399
2014	3,210,289	2,435,894	3,025,756	589,862	184,532	774,395
2015	2,715,970	1,988,326	2,486,479	498,153	229,491	727,644
2016	2,415,155	1,765,433	2,058,489	293,056	356,666	649,722
2017	2,762,162	1,961,557	2,388,569	427,012	373,593	800,605
2018	3,093,608	2,197,242	2,596,652	399,410	496,955	896,366
2019	3,119,599	2,066,521	2,634,859	568,338	484,741	1,053,079
2020	1,357,083	543,858	780,753	236,895	576,330	813,225
2021	2,176,972	829,368	1,903,987	1,074,619	272,985	1,347,605
2022	2,640,205	1,352,858	1,933,699	580,841	706,506	1,287,347
2023	2,598,347	836,035	1,806,857	970,822	791,489	1,762,311
2024	1,593,051	-	50,005	50,005	1,543,046	1,593,051
TOTAL	96,934,063	79,770,727	90,069,593	10,298,865	6,864,470	17,163,336

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Other
Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)
<u>RY</u>	<u>PAID LDM</u> <u>ULTIMATE</u>	<u>INC LDM</u> <u>ULTIMATE</u>	<u>PAID BF</u> <u>ULTIMATE</u>	<u>INC BF</u> <u>ULTIMATE</u>	<u>SELECTED</u> <u>ULTIMATE</u>
1994	3,507,126	3,399,805	-	-	3,399,805
1995	3,093,591	3,093,591	-	-	3,093,591
1996	2,547,508	2,547,508	-	-	2,547,508
1997	3,678,448	3,678,448	-	-	3,678,448
1998	3,020,235	3,020,235	-	-	3,020,235
1999	2,722,748	2,722,748	-	-	2,722,748
2000	4,406,695	4,406,695	-	-	4,406,695
2001	1,085,480	1,055,182	-	-	1,055,182
2002	4,543,316	4,543,210	-	-	4,543,210
2003	3,514,265	3,530,447	-	-	3,530,447
2004	4,754,545	4,580,973	-	-	4,580,973
2005	2,188,334	2,174,109	-	-	2,174,109
2006	4,370,035	4,132,909	-	-	4,132,909
2007	944,690	894,301	-	-	894,301
2008	2,465,150	2,268,306	2,435,936	2,268,053	2,268,306
2009	943,108	1,016,053	1,296,036	1,094,146	1,016,053
2010	223,439	242,879	585,438	377,691	242,879
2011	2,494,564	2,725,708	1,926,501	2,646,609	2,725,708
2012	1,178,266	1,176,236	1,298,286	1,218,848	1,176,236
2013	1,262,536	1,102,928	1,341,007	1,144,145	1,102,928
2014	452,047	400,015	765,358	514,407	577,271
2015	4,269,518	3,402,650	3,148,232	3,109,468	3,220,117
2016	1,747,402	1,482,934	1,514,607	1,438,060	1,545,751
2017	2,049,709	1,573,208	1,613,913	1,480,274	1,679,276
2018	1,178,349	1,285,140	1,101,513	1,220,689	1,196,423
2019	2,559,541	2,136,566	1,660,235	1,772,137	2,032,120
2020	957,288	743,964	892,544	783,276	806,595
2021	335,232	279,059	655,678	493,425	494,778
2022	-	-	557,156	338,163	557,156
2023	380,858	400,310	633,984	546,876	633,984
2024	447,871	774,691	597,066	657,758	676,505
TOTAL	67,321,894	64,790,807	22,023,490	21,104,025	65,732,245

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Other
Summary of Case & IBNR Reserves

(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>RY</u>	<u>SELECTED</u> <u>ULTIMATE</u>	<u>PAID</u> <u>LOSS</u>	<u>INCURRED</u> <u>LOSS</u>	<u>CASE</u> <u>RESERVE</u>	<u>IBNR</u> <u>RESERVE</u>	<u>UNPAID</u> <u>LOSS</u>
1994	3,399,805	3,369,805	3,399,805	30,000	-	30,000
1995	3,093,591	2,893,591	3,093,591	200,000	-	200,000
1996	2,547,508	2,269,676	2,547,508	277,832	-	277,832
1997	3,678,448	3,678,448	3,678,448	-	-	-
1998	3,020,235	2,601,109	3,020,235	419,125	-	419,125
1999	2,722,748	2,722,748	2,722,748	-	-	-
2000	4,406,695	4,192,604	4,406,695	214,091	-	214,091
2001	1,055,182	1,031,527	1,055,182	23,655	-	23,655
2002	4,543,210	4,266,556	4,543,316	276,760	(106)	276,654
2003	3,530,447	3,083,893	3,514,265	430,373	16,182	446,554
2004	4,580,973	4,382,324	4,535,017	152,694	45,956	198,650
2005	2,174,109	1,986,936	2,116,804	129,867	57,306	187,173
2006	4,132,909	3,902,928	3,955,672	52,744	177,237	229,981
2007	894,301	826,373	849,275	22,902	45,025	67,927
2008	2,268,306	2,107,328	2,138,633	31,305	129,673	160,978
2009	1,016,053	943,108	943,108	-	72,944	72,944
2010	242,879	223,439	223,439	-	19,440	19,440
2011	2,725,708	1,529,896	2,494,564	964,667	231,145	1,195,812
2012	1,176,236	886,902	1,073,400	186,498	102,836	289,334
2013	1,102,928	904,045	998,657	94,612	104,272	198,883
2014	577,271	304,917	354,917	50,000	222,353	272,353
2015	3,220,117	2,660,786	2,929,629	268,843	290,488	559,331
2016	1,545,751	1,013,503	1,253,320	239,817	292,430	532,248
2017	1,679,276	1,108,402	1,263,750	155,348	415,526	570,874
2018	1,196,423	595,974	969,311	373,337	227,111	600,448
2019	2,032,120	1,153,052	1,494,977	341,924	537,143	879,068
2020	806,595	341,805	484,283	142,478	322,312	464,789
2021	494,778	101,906	163,257	61,351	331,522	392,872
2022	557,156	-	-	-	557,156	557,156
2023	633,984	49,217	184,000	134,783	449,984	584,766
2024	676,505	-	199,904	199,904	476,601	676,505
TOTAL	65,732,245	55,132,800	60,607,708	5,474,909	5,124,536	10,599,445

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial UST
Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)
<u>RY</u>	<u>PAID LDM</u> <u>ULTIMATE</u>	<u>INC LDM</u> <u>ULTIMATE</u>	<u>PAID BF</u> <u>ULTIMATE</u>	<u>INC BF</u> <u>ULTIMATE</u>	<u>SELECTED</u> <u>ULTIMATE</u>
1994	-	-	-	-	-
1995	114,027	114,027	-	-	114,027
1996	70,110,485	69,920,762	-	-	69,920,762
1997	9,433,013	9,208,051	-	-	9,320,532
1998	19,628,624	19,103,396	-	-	19,366,010
1999	8,610,491	8,478,295	-	-	8,544,393
2000	16,380,642	16,438,326	-	-	16,438,326
2001	3,353,827	3,365,637	-	-	3,365,637
2002	3,375,144	3,251,136	-	-	3,251,136
2003	1,261,973	1,148,056	-	-	1,148,056
2004	2,456,656	2,500,145	-	-	2,500,145
2005	2,883,010	2,868,428	-	-	2,868,428
2006	811,501	842,854	-	-	842,854
2007	1,576,453	1,441,642	-	-	1,441,642
2008	705,588	750,817	870,662	750,367	705,588
2009	945,295	868,654	890,419	859,658	868,654
2010	823,409	883,257	768,888	870,996	883,257
2011	1,772,862	1,963,944	1,335,889	1,839,207	1,963,944
2012	305,720	341,748	514,766	375,611	305,720
2013	1,773,023	1,536,070	1,397,684	1,432,075	1,536,070
2014	1,101,924	988,848	934,353	944,867	1,045,386
2015	171,340	123,477	335,030	187,553	123,477
2016	1,266,657	1,444,858	998,279	1,317,071	1,342,862
2017	1,102,288	802,487	870,891	760,713	925,222
2018	1,185,359	975,159	887,187	894,034	1,018,184
2019	636,240	682,965	587,932	654,714	682,965
2020	258,212	331,250	405,673	374,872	405,673
2021	228,622	246,589	409,842	313,984	313,984
2022	689,636	981,307	553,454	823,213	823,213
2023	676,430	397,859	511,223	431,328	511,223
2024	449,132	701,085	474,021	554,798	576,635
TOTAL	154,087,583	152,701,125	12,746,193	13,385,062	153,154,002

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance AST
Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)
<u>RY</u>	<u>PAID LDM</u> <u>ULTIMATE</u>	<u>INC LDM</u> <u>ULTIMATE</u>	<u>PAID BF</u> <u>ULTIMATE</u>	<u>INC BF</u> <u>ULTIMATE</u>	<u>SELECTED</u> <u>ULTIMATE</u>
1994	-	-	-	-	-
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	478,042	478,042	-	-	478,042
1999	2,689,230	2,689,230	-	-	2,689,230
2000	1,195,793	1,195,793	-	-	1,195,793
2001	6,690,965	6,690,965	-	-	6,690,965
2002	2,309,328	2,309,328	-	-	2,309,328
2003	1,607,917	1,607,917	-	-	1,607,917
2004	3,424,778	3,424,778	-	-	3,424,778
2005	2,153,485	2,153,485	-	-	2,153,485
2006	2,228,883	2,228,883	-	-	2,228,883
2007	1,173,608	1,173,608	-	-	1,173,608
2008	581,362	581,934	722,453	582,749	581,934
2009	1,011,974	975,155	1,101,997	982,755	975,155
2010	1,434,006	1,451,938	1,144,545	1,454,858	1,451,938
2011	1,467,447	1,502,806	1,569,208	1,525,010	1,485,126
2012	2,885,739	2,647,068	2,979,707	2,658,319	2,766,403
2013	1,284,725	1,354,133	1,718,541	1,482,077	1,459,869
2014	844,706	918,767	997,617	1,121,941	997,617
2015	1,688,085	1,847,975	2,213,783	1,993,083	2,018,280
2016	2,432,608	2,741,255	2,610,715	2,838,584	2,655,790
2017	4,475,724	5,523,657	3,936,379	5,179,543	4,778,826
2018	3,361,668	4,051,797	3,614,879	4,002,867	3,706,732
2019	6,168,225	6,290,103	5,155,480	5,722,918	5,834,182
2020	1,926,788	2,411,485	3,116,110	2,872,890	2,403,721
2021	5,052,793	4,960,492	4,476,598	4,669,263	4,572,931
2022	3,472,186	4,025,789	3,964,491	4,058,677	3,718,338
2023	3,792,919	3,285,168	4,082,784	3,670,078	3,582,722
2024	5,877,833	3,349,471	4,281,817	3,832,517	3,590,994
TOTAL	71,710,817	71,871,020	47,687,101	48,648,129	70,532,586

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance AST
Summary of Case & IBNR Reserves

(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>RY</u>	<u>SELECTED</u> <u>ULTIMATE</u>	<u>PAID</u> <u>LOSS</u>	<u>INCURRED</u> <u>LOSS</u>	<u>CASE</u> <u>RESERVE</u>	<u>IBNR</u> <u>RESERVE</u>	<u>UNPAID</u> <u>LOSS</u>
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-
1998	478,042	478,042	478,042	-	-	-
1999	2,689,230	2,532,831	2,689,230	156,399	-	156,399
2000	1,195,793	1,195,793	1,195,793	-	-	-
2001	6,690,965	6,253,097	6,690,965	437,868	-	437,868
2002	2,309,328	1,994,064	2,309,328	315,264	-	315,264
2003	1,607,917	1,432,117	1,607,917	175,800	-	175,800
2004	3,424,778	2,780,056	3,424,778	644,722	-	644,722
2005	2,153,485	1,762,598	2,153,485	390,888	-	390,888
2006	2,228,883	2,044,448	2,228,883	184,435	-	184,435
2007	1,173,608	1,173,608	1,173,608	-	-	-
2008	581,934	581,362	581,362	-	571	571
2009	975,155	923,112	963,112	40,000	12,043	52,043
2010	1,451,938	933,528	1,434,006	500,478	17,932	518,410
2011	1,485,126	1,208,783	1,467,447	258,663	17,680	276,343
2012	2,766,403	2,449,027	2,572,226	123,199	194,177	317,376
2013	1,459,869	1,046,421	1,262,213	215,793	197,656	413,448
2014	997,617	195,732	844,706	648,974	152,911	801,885
2015	2,018,280	1,269,343	1,688,085	418,742	330,195	748,937
2016	2,655,790	1,411,117	2,432,608	1,021,491	223,182	1,244,673
2017	4,778,826	2,531,175	4,475,724	1,944,549	303,102	2,247,650
2018	3,706,732	1,912,756	3,221,353	1,308,597	485,379	1,793,977
2019	5,834,182	3,258,411	4,795,400	1,536,988	1,038,782	2,575,770
2020	2,403,721	861,719	1,707,075	845,356	696,646	1,542,002
2021	4,572,931	1,874,323	3,334,726	1,460,403	1,238,204	2,698,607
2022	3,718,338	959,231	2,453,496	1,494,265	1,264,843	2,759,107
2023	3,582,722	703,696	1,776,677	1,072,981	1,806,044	2,879,026
2024	3,590,994	388,229	1,355,742	967,512	2,235,253	3,202,765
TOTAL	70,532,586	44,154,621	60,317,986	16,163,366	10,214,600	26,377,966

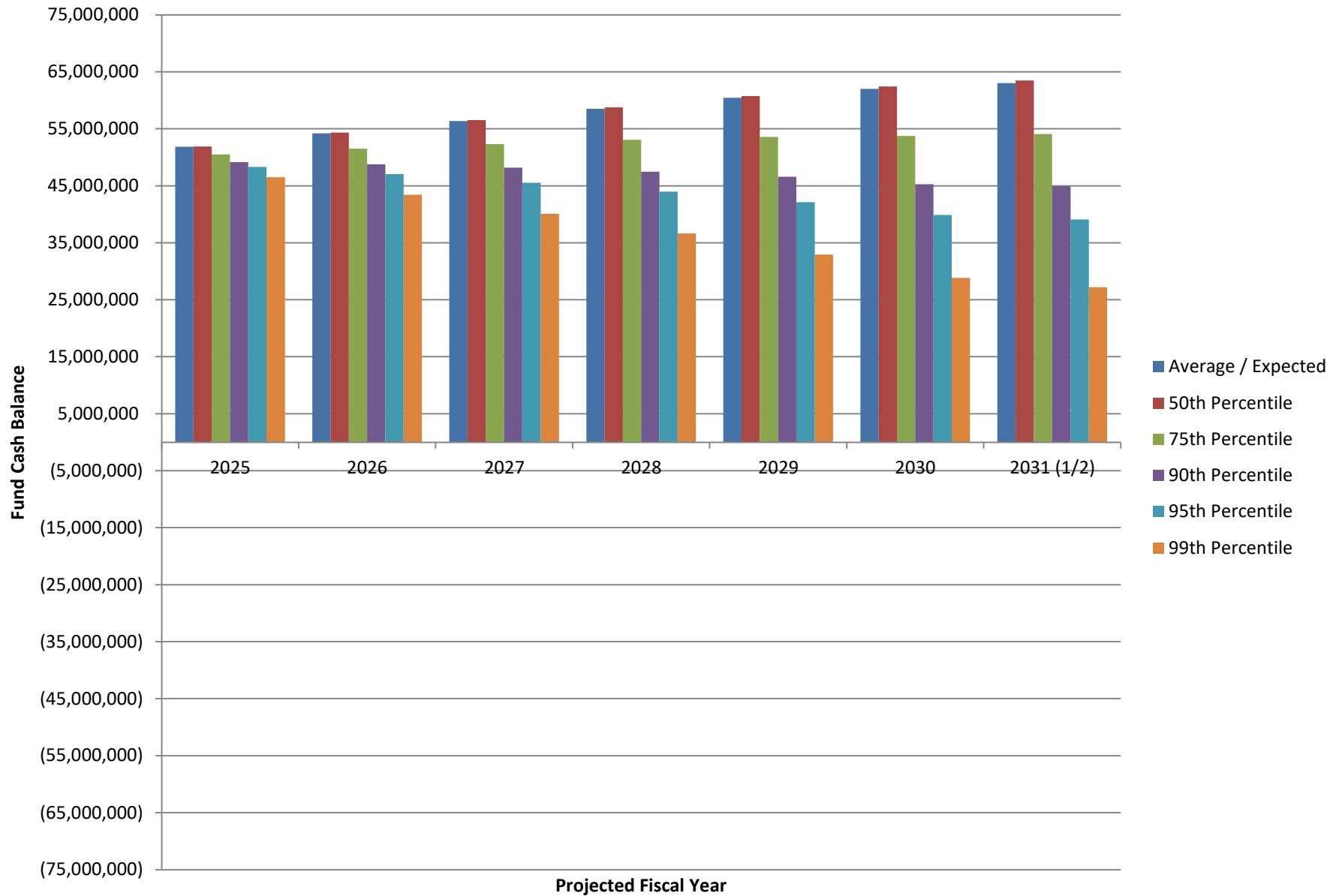
Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AST
Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)
<u>RY</u>	<u>PAID LDM</u> <u>ULTIMATE</u>	<u>INC LDM</u> <u>ULTIMATE</u>	<u>PAID BF</u> <u>ULTIMATE</u>	<u>INC BF</u> <u>ULTIMATE</u>	<u>SELECTED</u> <u>ULTIMATE</u>
1994	-	-	-	-	-
1995	106,826	106,826	-	-	106,826
1996	109,456	109,456	-	-	109,456
1997	-	-	-	-	-
1998	662,628	662,628	-	-	662,628
1999	1,741,560	1,741,560	-	-	1,741,560
2000	6,136,838	6,136,838	-	-	6,136,838
2001	2,258,986	2,258,986	-	-	2,258,986
2002	239,493	239,493	-	-	239,493
2003	555,224	555,224	-	-	555,224
2004	2,074,609	2,074,609	-	-	2,074,609
2005	79,838	79,838	-	-	79,838
2006	-	-	-	-	-
2007	41,750	41,750	-	-	41,750
2008	51,787	51,787	58,364	50,437	51,787
2009	183,657	183,657	191,285	181,704	183,657
2010	-	-	8,925	(478)	-
2011	-	-	9,955	(487)	-
2012	-	-	11,137	(423)	-
2013	-	-	12,326	1,876	-
2014	-	-	13,809	2,823	-
2015	155,510	177,456	173,056	160,451	155,510
2016	-	-	19,973	6,649	-
2017	59,359	70,934	82,262	66,138	59,359
2018	-	-	25,579	8,350	-
2019	-	-	28,070	9,491	-
2020	61,158	84,378	91,763	73,279	61,158
2021	75,000	103,872	50,496	87,481	95,676
2022	-	-	36,563	12,731	-
2023	-	-	42,214	18,121	18,121
2024	-	-	45,134	29,412	29,412
TOTAL	14,593,680	14,679,291	900,911	707,556	14,661,889

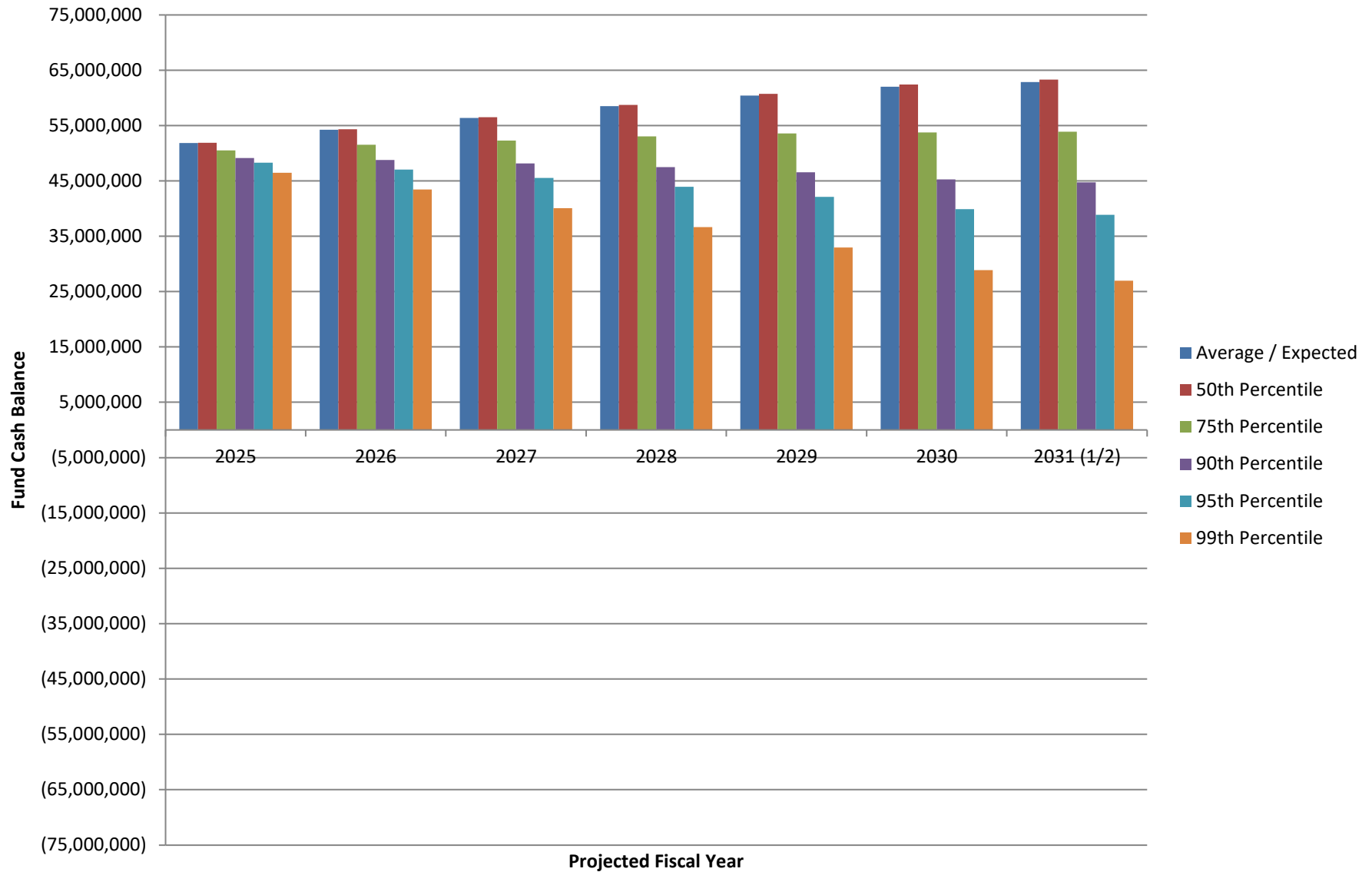
Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AST
Summary of Case & IBNR Reserves

(1) <u>RY</u>	(2) <u>SELECTED ULTIMATE</u>	(3) <u>PAID LOSS</u>	(4) <u>INCURRED LOSS</u>	(5) <u>CASE RESERVE</u>	(6) <u>IBNR RESERVE</u>	(7) <u>UNPAID LOSS</u>
1994	-	-	-	-	-	-
1995	106,826	106,826	106,826	-	-	-
1996	109,456	109,456	109,456	-	-	-
1997	-	-	-	-	-	-
1998	662,628	662,628	662,628	-	-	-
1999	1,741,560	1,499,337	1,741,560	242,223	-	242,223
2000	6,136,838	4,737,540	6,136,838	1,399,298	-	1,399,298
2001	2,258,986	1,716,797	2,258,986	542,189	-	542,189
2002	239,493	239,493	239,493	-	-	-
2003	555,224	555,224	555,224	-	-	-
2004	2,074,609	1,937,099	2,074,609	137,511	-	137,511
2005	79,838	79,838	79,838	-	-	-
2006	-	-	-	-	-	-
2007	41,750	41,750	41,750	-	-	-
2008	51,787	51,787	51,787	-	-	-
2009	183,657	183,657	183,657	-	-	-
2010	-	-	-	-	-	-
2011	-	-	-	-	-	-
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	-	-	-	-	-
2015	155,510	155,510	155,510	-	-	-
2016	-	-	-	-	-	-
2017	59,359	59,359	59,359	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
2020	61,158	61,158	61,158	-	-	-
2021	95,676	17,593	75,000	57,407	20,676	78,083
2022	-	-	-	-	-	-
2023	18,121	-	-	-	18,121	18,121
2024	29,412	-	-	-	29,412	29,412
TOTAL	14,661,889	12,215,052	14,593,680	2,378,627	68,209	2,446,837

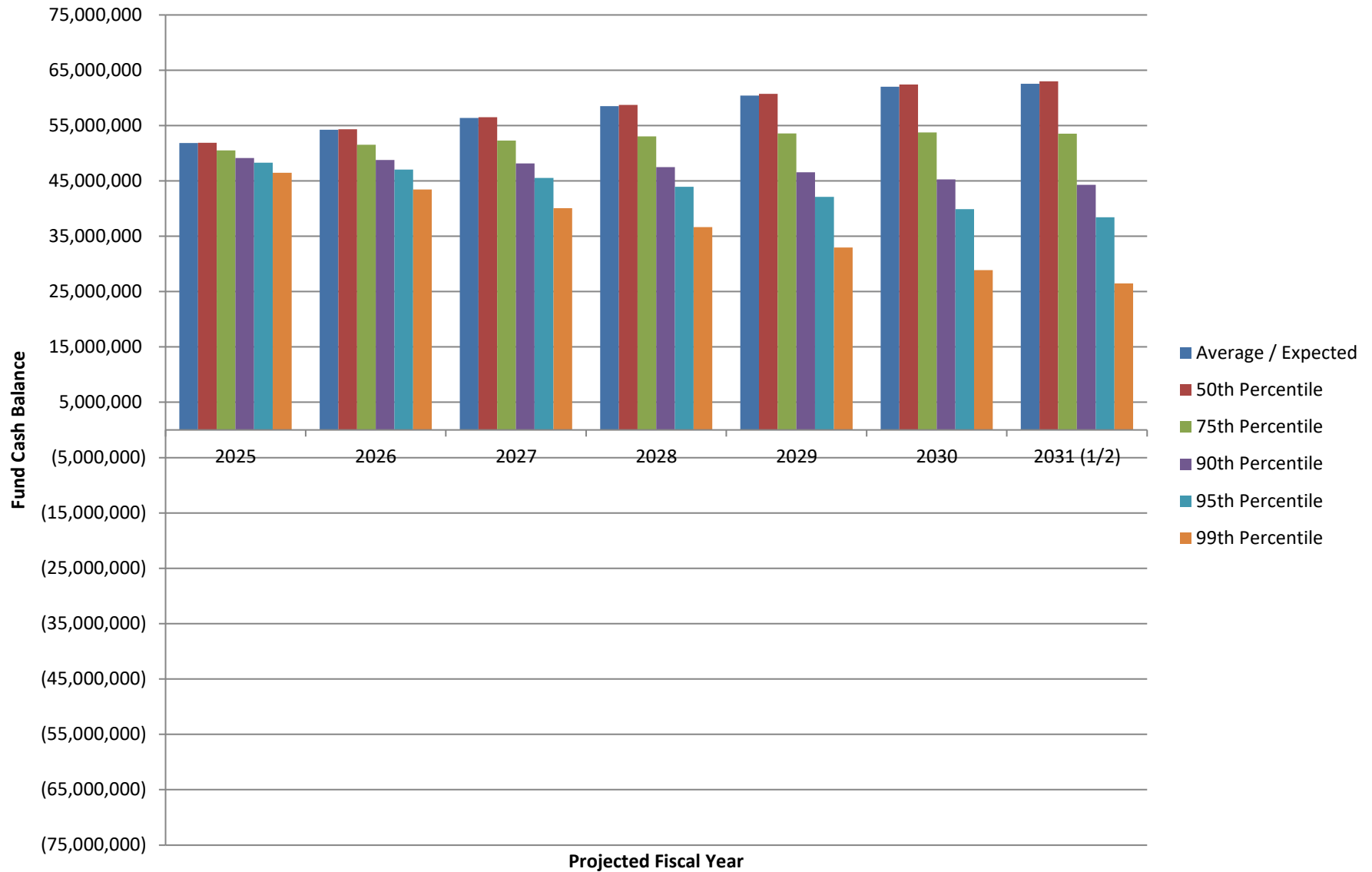
Projected Cash Balance by Fiscal Year at Confidence Levels



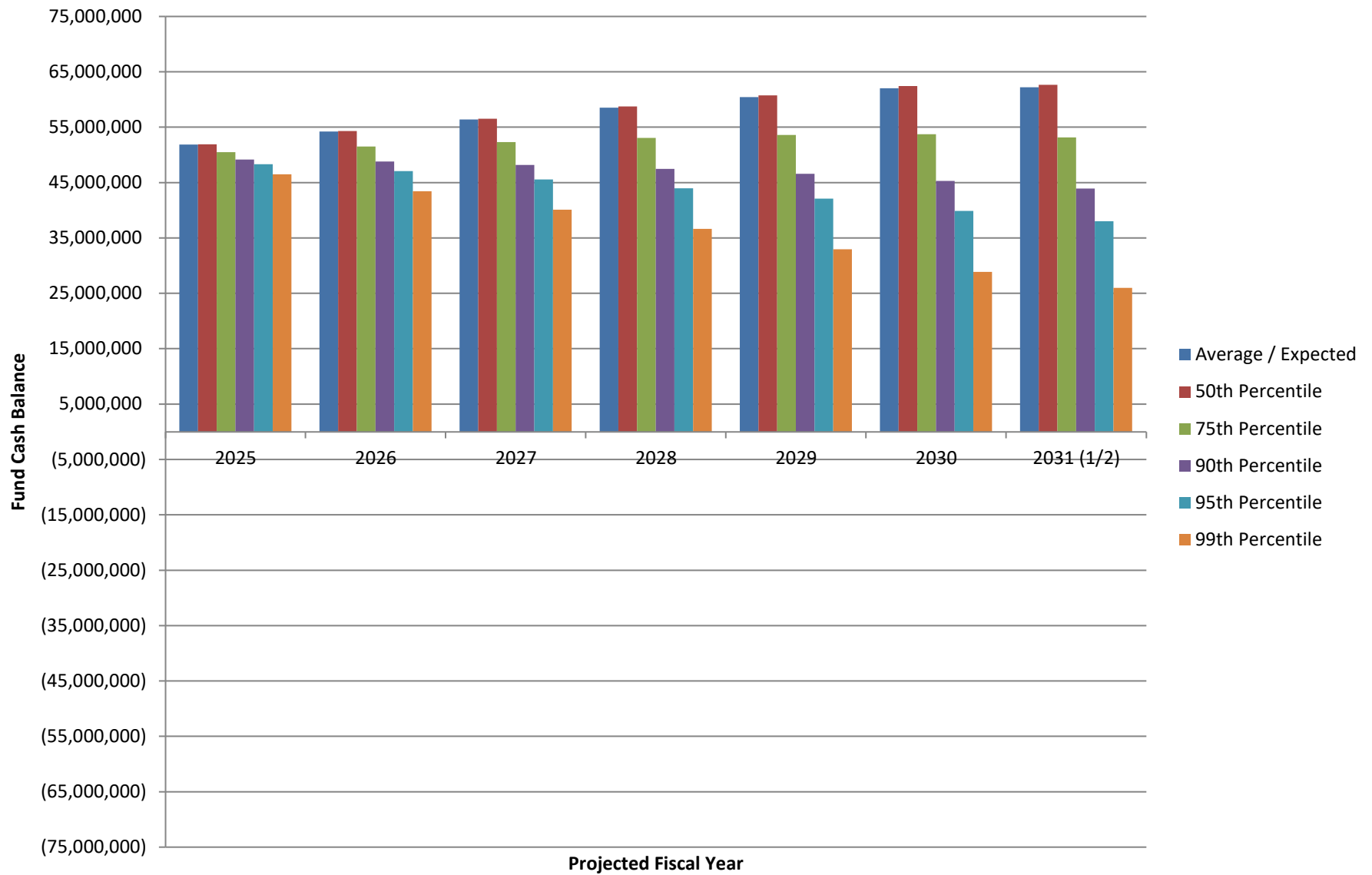
Projected Cash Balance by Fiscal Year at Confidence Levels with Increased Claim Activity due to Fund Sunset; Low Scenario



Projected Cash Balance by Fiscal Year at Confidence Levels with Increased Claim Activity due to Fund Sunset; Middle Scenario



Projected Cash Balance by Fiscal Year at Confidence Levels with Increased Claim Activity due to Fund Sunset; High Scenario



Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types
Financial Projections Based on PSTIF 2024 Projections

	(A) Annual Revenues Fiscal Year:	(B) 2025	(C) 2026	(D) 2027	(E) 2028	(F) 2029	(G) 2030	(H) 2031 (1/2)	(I) Totals
(1)	Transport load fees	18,000,000	17,942,857	17,885,714	17,828,571	17,771,429	17,714,286	8,828,571	115,971,429
(2)	100 Initial tank fees	12,000	12,000	12,000	12,000	12,000	12,000	6,000	78,000
(3)	UST participation fees	780,000	780,000	780,000	780,000	780,000	780,000	390,000	5,070,000
(4)	AST participation fees	310,000	310,000	310,000	310,000	310,000	310,000	155,000	2,015,000
(5)	Interest income	1,351,100	759,183	795,654	829,515	861,626	892,096	459,205	5,948,378
(6)	Total Revenues	20,453,100	19,804,040	19,783,368	19,760,086	19,735,054	19,708,382	9,838,776	129,082,807
	Administrative Expenses Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(7)	Contracted Fund Administrator Expenses	1,798,480	1,762,510	1,727,260	1,692,715	1,658,861	1,625,683	796,585	11,062,095
(8)	Contingency & Special Projects	75,000	75,000	75,000	75,000	75,000	75,000	37,500	487,500
(9)	Office of Administration	125,328	129,088	132,960	136,949	141,058	145,290	74,824	885,497
(10)	OA State Accounting Software	74,521	-	-	-	-	-	-	74,521
(11)	Section 319.107 Expenses	10,000	10,300	10,609	10,927	11,255	11,593	5,970	70,654
(12)	Underwriting	679,900	700,297	721,306	742,945	765,233	788,190	405,918	4,803,790
(13)	Inspections	292,250	346,738	466,187	300,545	357,299	477,869	304,174	2,545,062
(14)	Training & Loss Prevention Services	6,000	6,180	6,365	6,556	6,753	6,956	3,582	42,393
(15)	Other Legal and Litigation Costs	150,000	154,500	159,135	163,909	168,826	173,891	89,554	1,059,815
(16)	Other Contract Administrative Costs	422,250	434,918	447,965	461,404	475,246	489,503	252,094	2,983,380
(17)	Audit	22,000	22,660	23,340	24,040	24,761	25,504	13,135	155,440
(18)	Actuarial Analyses	15,650	16,500	17,350	18,200	19,050	19,900	20,750	127,400
(19)	Department of Revenue	60,947	62,775	64,659	66,598	68,596	70,654	36,387	430,617
(20)	Attorney General's Office	54,170	55,795	57,469	59,193	60,969	62,798	32,341	382,735
(21)	PSTIF Board/Staff	515,581	531,048	546,980	563,389	580,291	597,700	307,815	3,642,805
(22)	Department of Natural Resources	2,542,959	2,619,248	2,697,825	2,778,760	2,862,123	2,947,986	1,518,213	17,967,114
(23)	Total Administrative Expenses	6,845,036	6,927,558	7,154,410	7,101,132	7,275,322	7,518,517	3,898,843	46,720,817
	Claim Payments Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(24)	Average / Expected	11,119,027	10,502,695	10,487,916	10,518,595	10,537,308	10,603,906	4,940,735	68,710,184
(25)	50th Percentile Losses	11,088,411	10,446,200	10,418,434	10,440,504	10,456,024	10,519,271	4,898,804	68,267,649
(26)	75th Percentile Losses	12,472,374	11,857,126	11,851,941	11,903,975	11,937,372	12,020,828	5,603,713	77,647,328
(27)	90th Percentile Losses	13,824,159	13,238,433	13,254,475	13,334,924	13,383,412	13,483,045	6,289,910	86,808,357
(28)	95th Percentile Losses	14,678,933	14,115,942	14,148,123	14,246,637	14,304,692	14,415,041	6,728,445	92,637,814
(29)	99th Percentile Losses	16,494,874	15,928,570	15,976,105	16,094,227	16,156,634	16,279,327	7,604,308	104,534,045
(30)	Cash balance @ 6/30/24	49,367,658							
	Funds Available at Fiscal Year-End:	2025	2026	2027	2028	2029	2030	2031 (1/2)	
(31)	Average / Expected	51,856,695	54,230,482	56,371,524	58,511,884	60,434,308	62,020,266	63,019,464	
(32)	50th Percentile	51,887,311	54,317,593	56,528,117	58,746,568	60,750,276	62,420,869	63,461,999	
(33)	75th Percentile	50,503,348	51,522,704	52,299,721	53,054,701	53,577,062	53,746,099	54,082,319	
(34)	90th Percentile	49,151,563	48,789,613	48,164,096	47,488,126	46,564,447	45,271,267	44,921,291	
(35)	95th Percentile	48,296,789	47,057,329	45,538,164	43,950,482	42,105,522	39,880,346	39,091,834	
(36)	99th Percentile	46,480,848	43,428,760	40,081,613	36,646,341	32,949,438	28,859,977	27,195,603	

Notes: Rows (1) through (22) from Financial Projections provided by PSTIF with some minor differences due to rounding.

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types

Financial Projections Based on PSTIF 2024 Projections w/Increased Activity due to Sunset, Low Scenario

	(A) Annual Revenues Fiscal Year:	(B) 2025	(C) 2026	(D) 2027	(E) 2028	(F) 2029	(G) 2030	(H) 2031 (1/2)	(I) Totals
(1)	Transport load fees	18,000,000	17,942,857	17,885,714	17,828,571	17,771,429	17,714,286	8,828,571	115,971,429
(2)	100 Initial tank fees	12,000	12,000	12,000	12,000	12,000	12,000	6,000	78,000
(3)	UST participation fees	780,000	780,000	780,000	780,000	780,000	780,000	390,000	5,070,000
(4)	AST participation fees	310,000	310,000	310,000	310,000	310,000	310,000	155,000	2,015,000
(5)	Interest income	1,351,100	759,183	795,654	829,515	861,626	892,096	459,205	5,948,378
(6)	Total Revenues	20,453,100	19,804,040	19,783,368	19,760,086	19,735,054	19,708,382	9,838,776	129,082,807
	Administrative Expenses Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(7)	Contracted Fund Administrator Expenses	1,798,480	1,762,510	1,727,260	1,692,715	1,658,861	1,625,683	796,585	11,062,095
(8)	Contingency & Special Projects	75,000	75,000	75,000	75,000	75,000	75,000	37,500	487,500
(9)	Office of Administration	125,328	129,088	132,960	136,949	141,058	145,290	74,824	885,497
(10)	OA State Accounting Software	74,521							
(11)	Section 319.107 Expenses	10,000	10,300	10,609	10,927	11,255	11,593	5,970	70,654
(12)	Underwriting	679,900	700,297	721,306	742,945	765,233	788,190	405,918	4,803,790
(13)	Inspections	292,250	346,738	466,187	300,545	357,299	477,869	304,174	2,545,062
(14)	Training & Loss Prevention Services	6,000	6,180	6,365	6,556	6,753	6,956	3,582	42,393
(15)	Other Legal and Litigation Costs	150,000	154,500	159,135	163,909	168,826	173,891	89,554	1,059,815
(16)	Other Contract Administrative Costs	422,250	434,918	447,965	461,404	475,246	489,503	252,094	2,983,380
(17)	Audit	22,000	22,660	23,340	24,040	24,761	25,504	13,135	155,440
(18)	Actuarial Analyses	15,650	16,500	17,350	18,200	19,050	19,900	20,750	127,400
(19)	Department of Revenue	60,947	62,775	64,659	66,598	68,596	70,654	36,387	430,617
(20)	Attorney General's Office	54,170	55,795	57,469	59,193	60,969	62,798	32,341	382,735
(21)	PSTIF Board/Staff	515,581	531,048	546,980	563,389	580,291	597,700	307,815	3,642,805
(22)	Department of Natural Resources	2,542,959	2,619,248	2,697,825	2,778,760	2,862,123	2,947,986	1,518,213	17,967,114
(23)	Total Administrative Expenses	6,845,036	6,927,558	7,154,410	7,101,132	7,275,322	7,518,517	3,898,843	46,720,817
	Claim Payments Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(24)	Average / Expected	11,119,027	10,502,695	10,487,916	10,518,595	10,537,308	10,603,906	5,101,838	68,871,286
(25)	50th Percentile Losses	11,088,411	10,446,200	10,418,434	10,440,504	10,456,024	10,519,271	5,057,994	68,426,839
(26)	75th Percentile Losses	12,472,374	11,857,126	11,851,941	11,903,975	11,937,372	12,020,828	5,785,973	77,829,589
(27)	90th Percentile Losses	13,824,159	13,238,433	13,254,475	13,334,924	13,383,412	13,483,045	6,494,549	87,012,996
(28)	95th Percentile Losses	14,678,933	14,115,942	14,148,123	14,246,637	14,304,692	14,415,041	6,947,935	92,857,303
(29)	99th Percentile Losses	16,494,874	15,928,570	15,976,105	16,094,227	16,156,634	16,279,327	7,850,607	104,780,345
(30)	Cash balance @ 6/30/24	49,367,658							
	Funds Available at Fiscal Year-End:	2025	2026	2027	2028	2029	2030	2031 (1/2)	
(31)	Average / Expected	51,856,695	54,230,482	56,371,524	58,511,884	60,434,308	62,020,266	62,858,362	
(32)	50th Percentile	51,887,311	54,317,593	56,528,117	58,746,568	60,750,276	62,420,869	63,302,808	
(33)	75th Percentile	50,503,348	51,522,704	52,299,721	53,054,701	53,577,062	53,746,099	53,900,059	
(34)	90th Percentile	49,151,563	48,789,613	48,164,096	47,488,126	46,564,447	45,271,267	44,716,651	
(35)	95th Percentile	48,296,789	47,057,329	45,538,164	43,950,482	42,105,522	39,880,346	38,872,345	
(36)	99th Percentile	46,480,848	43,428,760	40,081,613	36,646,341	32,949,438	28,859,977	26,949,303	

Notes: Rows (1) through (22) from Financial Projections provided by PSTIF with some minor differences due to rounding.

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types

Financial Projections Based on PSTIF 2024 Projections w/Increased Activity due to Sunset, Middle Scenario

	(A) Annual Revenues Fiscal Year:	(B) 2025	(C) 2026	(D) 2027	(E) 2028	(F) 2029	(G) 2030	(H) 2031 (1/2)	(I) Totals
(1)	Transport load fees	18,000,000	17,942,857	17,885,714	17,828,571	17,771,429	17,714,286	8,828,571	115,971,429
(2)	100 Initial tank fees	12,000	12,000	12,000	12,000	12,000	12,000	6,000	78,000
(3)	UST participation fees	780,000	780,000	780,000	780,000	780,000	780,000	390,000	5,070,000
(4)	AST participation fees	310,000	310,000	310,000	310,000	310,000	310,000	155,000	2,015,000
(5)	Interest income	1,351,100	759,183	795,654	829,515	861,626	892,096	459,205	5,948,378
(6)	Total Revenues	20,453,100	19,804,040	19,783,368	19,760,086	19,735,054	19,708,382	9,838,776	129,082,807
	Administrative Expenses Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(7)	Contracted Fund Administrator Expenses	1,798,480	1,762,510	1,727,260	1,692,715	1,658,861	1,625,683	796,585	11,062,095
(8)	Contingency & Special Projects	75,000	75,000	75,000	75,000	75,000	75,000	37,500	487,500
(9)	Office of Administration	125,328	129,088	132,960	136,949	141,058	145,290	74,824	885,497
(10)	OA State Accounting Software	74,521							
(11)	Section 319.107 Expenses	10,000	10,300	10,609	10,927	11,255	11,593	5,970	70,654
(12)	Underwriting	679,900	700,297	721,306	742,945	765,233	788,190	405,918	4,803,790
(13)	Inspections	292,250	346,738	466,187	300,545	357,299	477,869	304,174	2,545,062
(14)	Training & Loss Prevention Services	6,000	6,180	6,365	6,556	6,753	6,956	3,582	42,393
(15)	Other Legal and Litigation Costs	150,000	154,500	159,135	163,909	168,826	173,891	89,554	1,059,815
(16)	Other Contract Administrative Costs	422,250	434,918	447,965	461,404	475,246	489,503	252,094	2,983,380
(17)	Audit	22,000	22,660	23,340	24,040	24,761	25,504	13,135	155,440
(18)	Actuarial Analyses	15,650	16,500	17,350	18,200	19,050	19,900	20,750	127,400
(19)	Department of Revenue	60,947	62,775	64,659	66,598	68,596	70,654	36,387	430,617
(20)	Attorney General's Office	54,170	55,795	57,469	59,193	60,969	62,798	32,341	382,735
(21)	PSTIF Board/Staff	515,581	531,048	546,980	563,389	580,291	597,700	307,815	3,642,805
(22)	Department of Natural Resources	2,542,959	2,619,248	2,697,825	2,778,760	2,862,123	2,947,986	1,518,213	17,967,114
(23)	Total Administrative Expenses	6,845,036	6,927,558	7,154,410	7,101,132	7,275,322	7,518,517	3,898,843	46,720,817
	Claim Payments Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(24)	Average / Expected	11,119,027	10,502,695	10,487,916	10,518,595	10,537,308	10,603,906	5,424,043	69,193,491
(25)	50th Percentile Losses	11,088,411	10,446,200	10,418,434	10,440,504	10,456,024	10,519,271	5,376,376	68,745,221
(26)	75th Percentile Losses	12,472,374	11,857,126	11,851,941	11,903,975	11,937,372	12,020,828	6,150,493	78,194,109
(27)	90th Percentile Losses	13,824,159	13,238,433	13,254,475	13,334,924	13,383,412	13,483,045	6,903,827	87,422,274
(28)	95th Percentile Losses	14,678,933	14,115,942	14,148,123	14,246,637	14,304,692	14,415,041	7,386,913	93,296,282
(29)	99th Percentile Losses	16,494,874	15,928,570	15,976,105	16,094,227	16,156,634	16,279,327	8,343,207	105,272,944
(30)	Cash balance @ 6/30/24	49,367,658							
	Funds Available at Fiscal Year-End:	2025	2026	2027	2028	2029	2030	2031 (1/2)	
(31)	Average / Expected	51,856,695	54,230,482	56,371,524	58,511,884	60,434,308	62,020,266	62,536,157	
(32)	50th Percentile	51,887,311	54,317,593	56,528,117	58,746,568	60,750,276	62,420,869	62,984,427	
(33)	75th Percentile	50,503,348	51,522,704	52,299,721	53,054,701	53,577,062	53,746,099	53,535,539	
(34)	90th Percentile	49,151,563	48,789,613	48,164,096	47,488,126	46,564,447	45,271,267	44,307,373	
(35)	95th Percentile	48,296,789	47,057,329	45,538,164	43,950,482	42,105,522	39,880,346	38,433,366	
(36)	99th Percentile	46,480,848	43,428,760	40,081,613	36,646,341	32,949,438	28,859,977	26,456,703	

Notes: Rows (1) through (22) from Financial Projections provided by PSTIF with some minor differences due to rounding.

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types

Financial Projections Based on PSTIF 2024 Projections w/Increased Activity due to Sunset, High Scenario

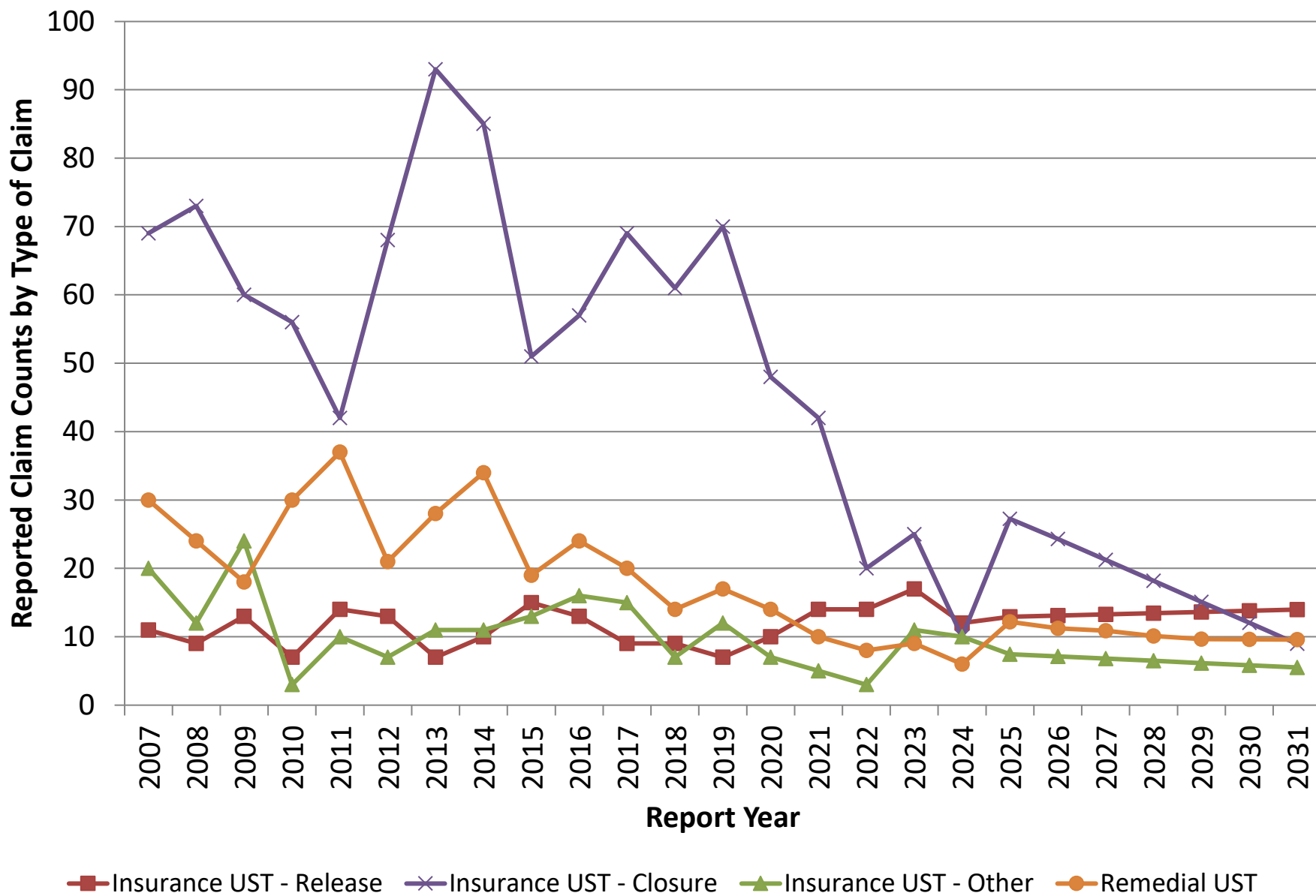
	(A) Annual Revenues Fiscal Year:	(B) 2025	(C) 2026	(D) 2027	(E) 2028	(F) 2029	(G) 2030	(H) 2031 (1/2)	(I) Totals
(1)	Transport load fees	18,000,000	17,942,857	17,885,714	17,828,571	17,771,429	17,714,286	8,828,571	115,971,429
(2)	100 Initial tank fees	12,000	12,000	12,000	12,000	12,000	12,000	6,000	78,000
(3)	UST participation fees	780,000	780,000	780,000	780,000	780,000	780,000	390,000	5,070,000
(4)	AST participation fees	310,000	310,000	310,000	310,000	310,000	310,000	155,000	2,015,000
(5)	Interest income	1,351,100	759,183	795,654	829,515	861,626	892,096	459,205	5,948,378
(6)	Total Revenues	20,453,100	19,804,040	19,783,368	19,760,086	19,735,054	19,708,382	9,838,776	129,082,807
	Administrative Expenses Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(7)	Contracted Fund Administrator Expenses	1,798,480	1,762,510	1,727,260	1,692,715	1,658,861	1,625,683	796,585	11,062,095
(8)	Contingency & Special Projects	75,000	75,000	75,000	75,000	75,000	75,000	37,500	487,500
(9)	Office of Administration	125,328	129,088	132,960	136,949	141,058	145,290	74,824	885,497
(10)	OA State Accounting Software	74,521							
(11)	Section 319.107 Expenses	10,000	10,300	10,609	10,927	11,255	11,593	5,970	70,654
(12)	Underwriting	679,900	700,297	721,306	742,945	765,233	788,190	405,918	4,803,790
(13)	Inspections	292,250	346,738	466,187	300,545	357,299	477,869	304,174	2,545,062
(14)	Training & Loss Prevention Services	6,000	6,180	6,365	6,556	6,753	6,956	3,582	42,393
(15)	Other Legal and Litigation Costs	150,000	154,500	159,135	163,909	168,826	173,891	89,554	1,059,815
(16)	Other Contract Administrative Costs	422,250	434,918	447,965	461,404	475,246	489,503	252,094	2,983,380
(17)	Audit	22,000	22,660	23,340	24,040	24,761	25,504	13,135	155,440
(18)	Actuarial Analyses	15,650	16,500	17,350	18,200	19,050	19,900	20,750	127,400
(19)	Department of Revenue	60,947	62,775	64,659	66,598	68,596	70,654	36,387	430,617
(20)	Attorney General's Office	54,170	55,795	57,469	59,193	60,969	62,798	32,341	382,735
(21)	PSTIF Board/Staff	515,581	531,048	546,980	563,389	580,291	597,700	307,815	3,642,805
(22)	Department of Natural Resources	2,542,959	2,619,248	2,697,825	2,778,760	2,862,123	2,947,986	1,518,213	17,967,114
(23)	Total Administrative Expenses	6,845,036	6,927,558	7,154,410	7,101,132	7,275,322	7,518,517	3,898,843	46,720,817
	Claim Payments Fiscal Year:	2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(24)	Average / Expected	11,119,027	10,502,695	10,487,916	10,518,595	10,537,308	10,603,906	5,746,247	69,515,696
(25)	50th Percentile Losses	11,088,411	10,446,200	10,418,434	10,440,504	10,456,024	10,519,271	5,694,757	69,063,602
(26)	75th Percentile Losses	12,472,374	11,857,126	11,851,941	11,903,975	11,937,372	12,020,828	6,515,013	78,558,629
(27)	90th Percentile Losses	13,824,159	13,238,433	13,254,475	13,334,924	13,383,412	13,483,045	7,313,106	87,831,553
(28)	95th Percentile Losses	14,678,933	14,115,942	14,148,123	14,246,637	14,304,692	14,415,041	7,825,892	93,735,261
(29)	99th Percentile Losses	16,494,874	15,928,570	15,976,105	16,094,227	16,156,634	16,279,327	8,835,806	105,765,544
(30)	Cash balance @ 6/30/24	49,367,658							
	Funds Available at Fiscal Year-End:	2025	2026	2027	2028	2029	2030	2031 (1/2)	
(31)	Average / Expected	51,856,695	54,230,482	56,371,524	58,511,884	60,434,308	62,020,266	62,213,952	
(32)	50th Percentile	51,887,311	54,317,593	56,528,117	58,746,568	60,750,276	62,420,869	62,666,046	
(33)	75th Percentile	50,503,348	51,522,704	52,299,721	53,054,701	53,577,062	53,746,099	53,171,018	
(34)	90th Percentile	49,151,563	48,789,613	48,164,096	47,488,126	46,564,447	45,271,267	43,898,095	
(35)	95th Percentile	48,296,789	47,057,329	45,538,164	43,950,482	42,105,522	39,880,346	37,994,387	
(36)	99th Percentile	46,480,848	43,428,760	40,081,613	36,646,341	32,949,438	28,859,977	25,964,104	

Notes: Rows (1) through (22) from Financial Projections provided by PSTIF with some minor differences due to rounding.

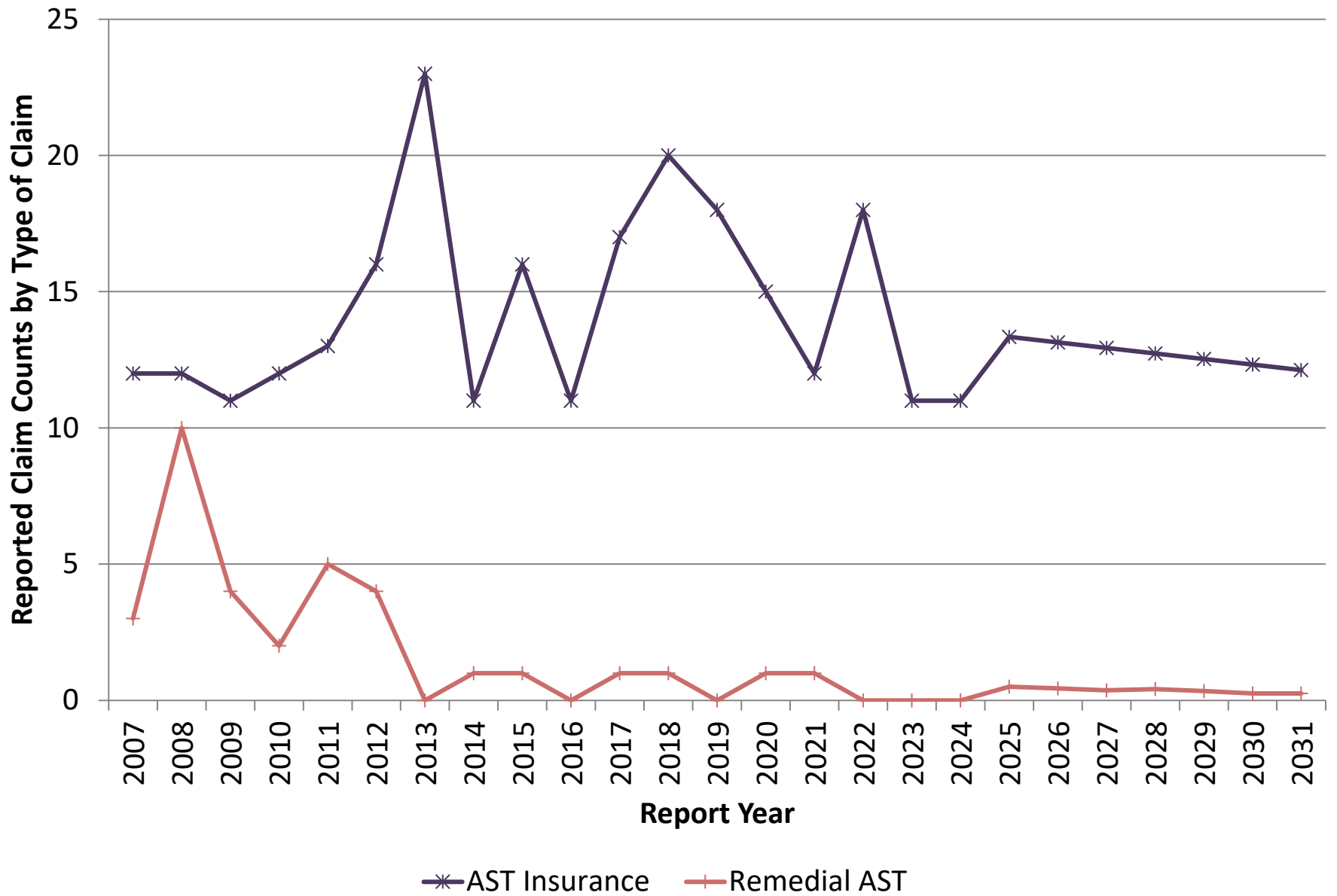
Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types
Financial Projection Cash Flow Detail

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
Claim Payments Arising from Current Reserves (Report Years 2024 and Prior)									
		2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(1)	50th Percentile Losses	10,412,218	8,257,306	7,123,766	6,400,937	5,828,613	5,289,686	2,260,466	45,572,992
(2)	75th Percentile Losses	11,697,845	9,346,686	8,069,541	7,265,567	6,624,605	6,014,981	2,571,762	51,590,987
(3)	90th Percentile Losses	12,954,025	10,417,993	9,001,904	8,119,875	7,411,750	6,731,977	2,879,835	57,517,359
(4)	95th Percentile Losses	13,746,090	11,097,798	9,596,264	8,665,073	7,914,247	7,190,992	3,078,183	61,288,647
(5)	99th Percentile Losses	15,447,466	12,541,822	10,864,044	9,826,285	8,982,791	8,168,797	3,503,694	69,334,899
(6)	Mean	10,434,888	8,289,725	7,156,492	6,434,001	5,858,568	5,316,488	2,272,661	45,762,824
Claim Payments Arising from Future Claims (Report Years 2025 through 12/31/2031)									
		2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(7)	50th Percentile Losses	676,193	2,188,895	3,294,668	4,039,567	4,627,411	5,229,586	2,638,337	22,694,657
(8)	75th Percentile Losses	774,529	2,510,440	3,782,400	4,638,408	5,312,767	6,005,847	3,031,951	26,056,341
(9)	90th Percentile Losses	870,134	2,820,440	4,252,571	5,215,049	5,971,662	6,751,067	3,410,074	29,290,997
(10)	95th Percentile Losses	932,844	3,018,144	4,551,859	5,581,564	6,390,445	7,224,049	3,650,262	31,349,167
(11)	99th Percentile Losses	1,047,408	3,386,748	5,112,061	6,267,942	7,173,843	8,110,530	4,100,613	35,199,146
(12)	Mean	684,139	2,212,970	3,331,424	4,084,595	4,678,740	5,287,419	2,668,074	22,947,360
Total Projected Claim Payments									
		2025	2026	2027	2028	2029	2030	2031 (1/2)	Totals
(13)	50th Percentile Losses	11,088,411	10,446,200	10,418,434	10,440,504	10,456,024	10,519,271	4,898,804	68,267,649
(14)	75th Percentile Losses	12,472,374	11,857,126	11,851,941	11,903,975	11,937,372	12,020,828	5,603,713	77,647,328
(15)	90th Percentile Losses	13,824,159	13,238,433	13,254,475	13,334,924	13,383,412	13,483,045	6,289,910	86,808,357
(16)	95th Percentile Losses	14,678,933	14,115,942	14,148,123	14,246,637	14,304,692	14,415,041	6,728,445	92,637,814
(17)	99th Percentile Losses	16,494,874	15,928,570	15,976,105	16,094,227	16,156,634	16,279,327	7,604,308	104,534,045
(18)	Mean	11,119,027	10,502,695	10,487,916	10,518,595	10,537,308	10,603,906	4,940,735	68,710,184

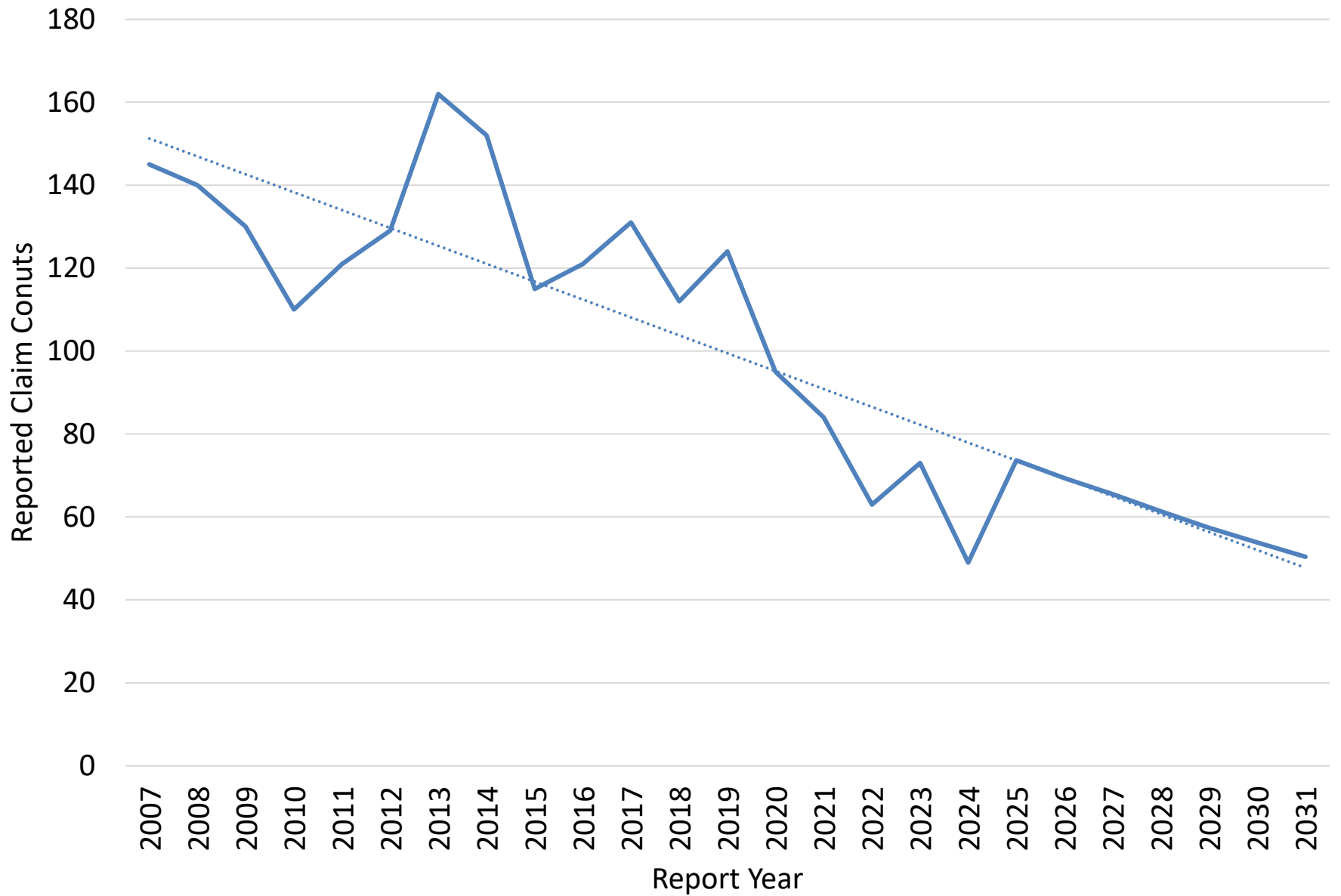
Projected Reported Claim Counts by Claim Type



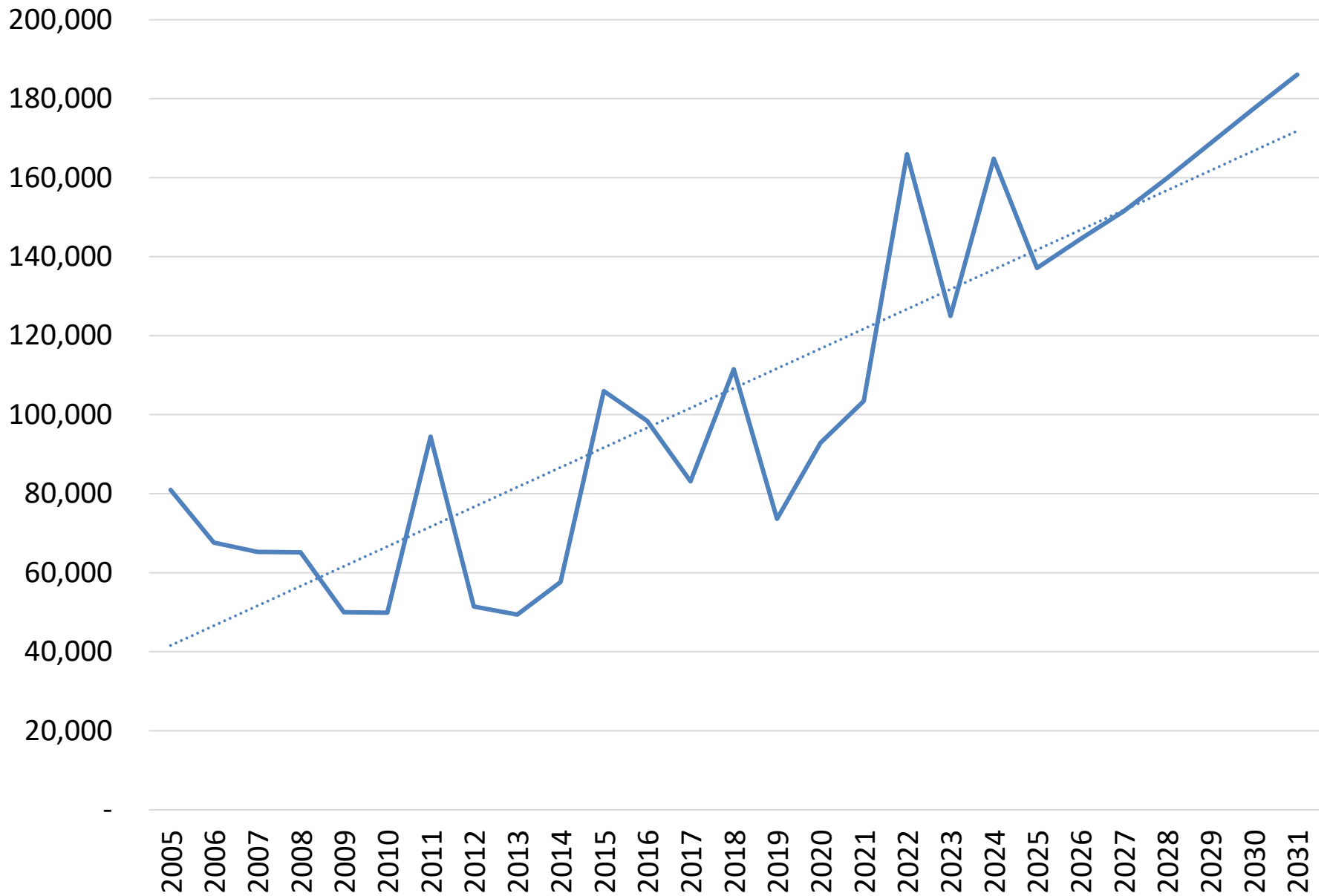
Projected Reported Claim Counts by Claim Type



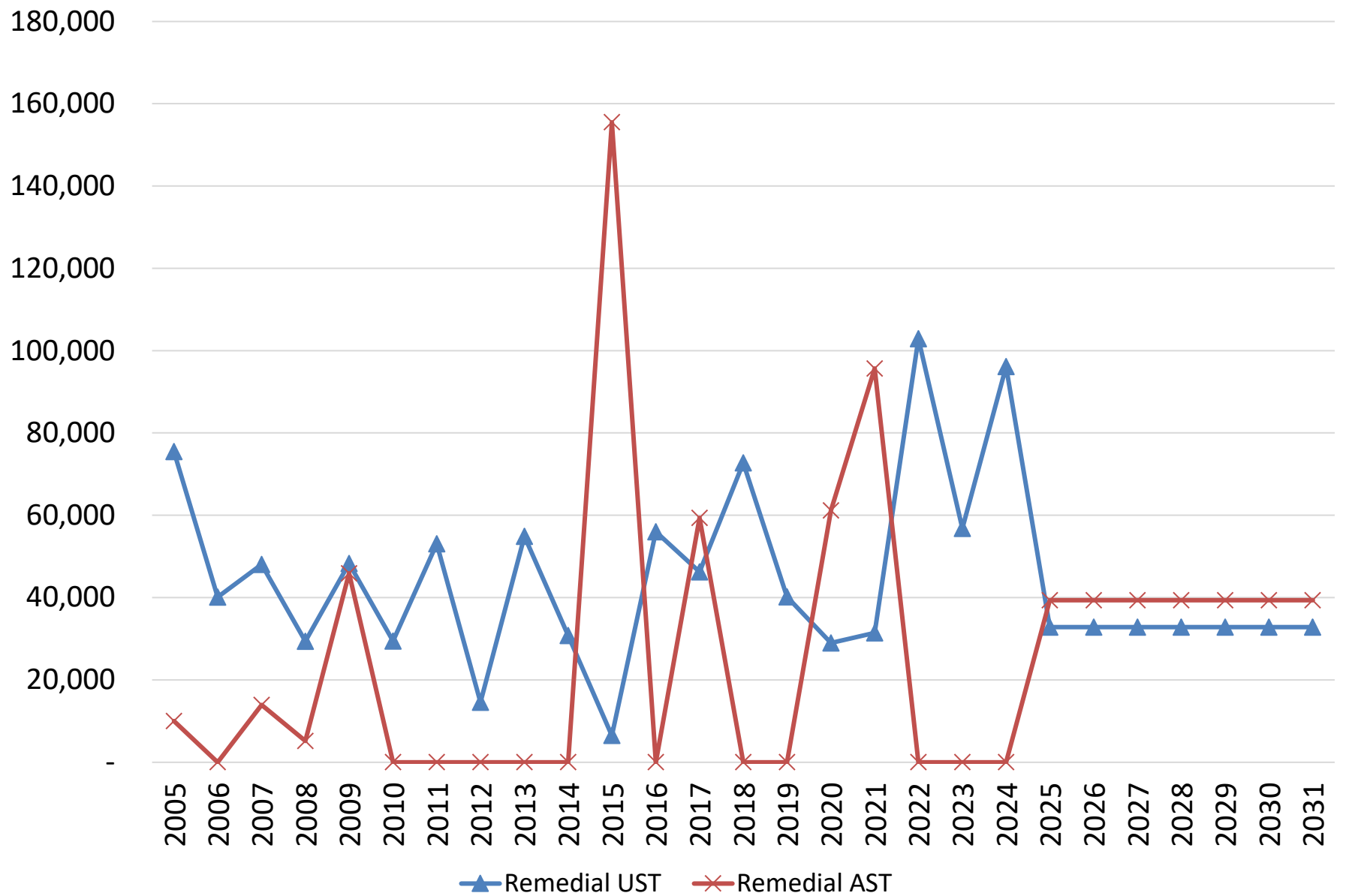
Total Claim Counts by Report Year



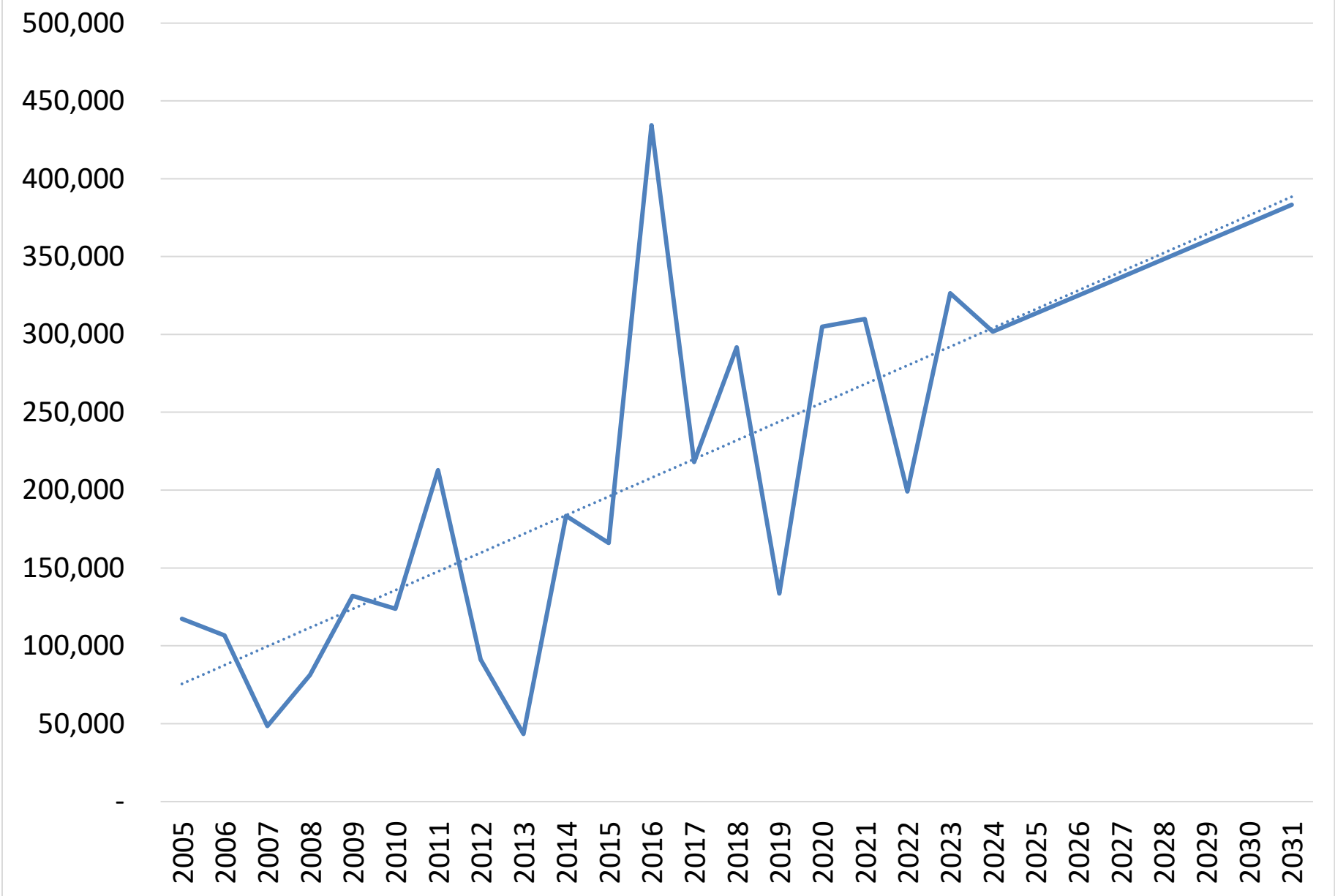
Total Average Severity by Report Year



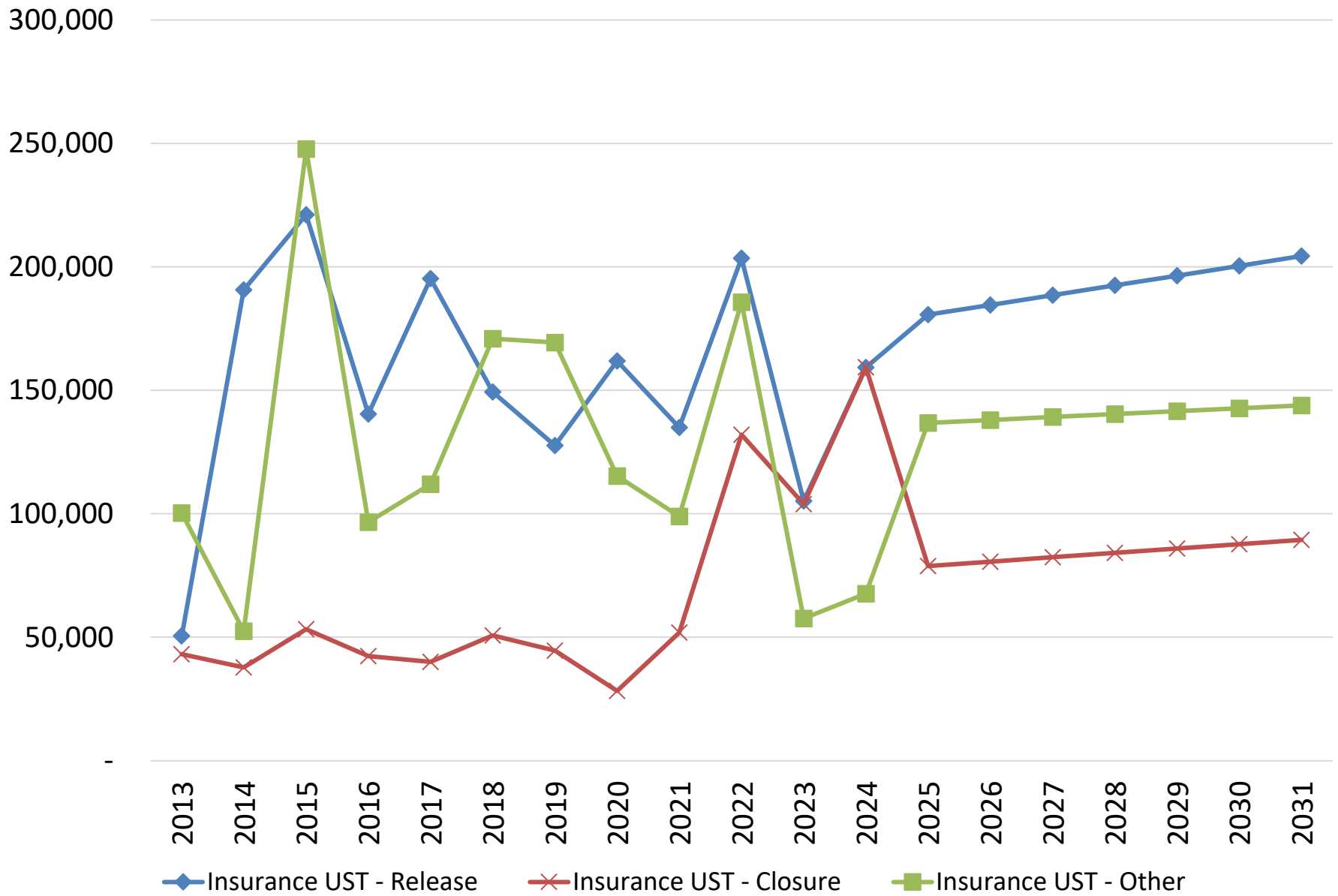
Remedial Claim Severities by Report Year



AST Insurance Severity by Report Year



UST Insurance Severities by Report Year



Ultimate Losses Projected Latest Year

RY	UST				AST	
	RELEASE	CLOSURE	OTHER	REMEDIAL	INSURANCE	REMEDIAL
2025	2,333,112	2,148,795	1,019,203	400,419	4,181,446	19,645
2026	2,415,110	1,958,809	984,239	368,661	4,270,423	17,189
2027	2,499,622	1,749,213	946,865	357,364	4,354,651	14,426
2028	2,585,509	1,528,772	908,716	332,451	4,434,129	16,226
2029	2,672,771	1,297,488	869,789	316,654	4,508,859	13,342
2030	2,761,409	1,055,359	830,086	315,192	4,578,839	10,097
2031	1,425,711	401,193	394,803	157,466	2,322,035	10,096

Ultimate Losses Projected Prior Year

RY	UST				AST	
	RELEASE	CLOSURE	OTHER	REMEDIAL	INSURANCE	REMEDIAL
2024	2,152,947	2,424,175	1,037,984	469,103	3,774,570	19,164
2025	2,221,019	2,281,283	991,071	430,564	3,853,901	21,554
2026	2,289,925	2,131,298	942,278	403,325	3,929,745	19,457
2027	2,359,666	1,974,220	891,604	396,865	4,002,100	17,097
2028	2,430,241	1,810,048	839,050	377,518	4,070,966	19,230
2029	2,501,650	1,638,783	784,616	367,858	4,136,345	16,843
2030	2,573,894	1,460,426	728,301	373,125	4,198,235	14,156
2031	1,323,486	637,487	335,053	186,379	2,128,319	7,077

Difference

RY	UST				AST	
	RELEASE	CLOSURE	OTHER	REMEDIAL	INSURANCE	REMEDIAL
2025	112,093	(132,488)	28,131	(30,145)	327,545	(1,909)
2026	125,184	(172,489)	41,961	(34,664)	340,678	(2,268)
2027	139,956	(225,007)	55,261	(39,501)	352,551	(2,672)
2028	155,268	(281,276)	69,665	(45,067)	363,163	(3,004)
2029	171,121	(341,296)	85,173	(51,204)	372,514	(3,500)
2030	187,515	(405,067)	101,784	(57,933)	380,604	(4,059)
2031	102,225	(236,294)	59,749	(28,912)	193,716	3,019

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST Claims
Projection of Future Frequencies and Severities

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
RY	UST POLS IN FORCE	REPORTED CLAIM COUNTS			ULTIMATE LOSS SEVERITY			ULTIMATE LOSSES		
		RELEASE	CLOSURE	OTHER	RELEASE	CLOSURE	OTHER	RELEASE	CLOSURE	OTHER
1998		18	161	39	75,148	37,046	77,442	1,352,666	5,964,475	3,020,235
1999		8	225	20	17,822	43,293	136,137	142,573	9,740,883	2,722,748
2000		26	90	59	69,900	60,931	74,690	1,817,407	5,483,807	4,406,695
2001		23	65	36	47,137	34,269	29,311	1,084,144	2,227,492	1,055,182
2002		19	68	48	37,557	65,215	94,650	713,587	4,434,626	4,543,210
2003		19	73	45	104,256	56,875	78,454	1,980,868	4,151,887	3,530,447
2004		10	68	38	131,024	35,767	120,552	1,310,240	2,432,148	4,580,973
2005		10	53	18	168,093	52,590	120,784	1,680,933	2,787,260	2,174,109
2006		5	54	17	32,287	33,341	243,112	161,433	1,800,439	4,132,909
2007		11	69	20	219,953	59,264	44,715	2,419,487	4,089,201	894,301
2008	2,664	9	73	12	226,014	42,314	189,025	2,034,124	3,088,901	2,268,306
2009	2,662	13	60	24	68,088	34,863	42,336	885,145	2,091,762	1,016,053
2010	2,622	7	56	3	98,826	38,936	80,960	691,783	2,180,416	242,879
2011	2,623	14	42	10	164,187	39,720	272,571	2,298,623	1,668,228	2,725,708
2012	2,617	13	68	7	82,918	38,459	168,034	1,077,933	2,615,206	1,176,236
2013	2,603	7	93	11	50,473	43,172	100,266	353,311	4,015,015	1,102,928
2014	2,573	10	85	11	190,624	37,768	52,479	1,906,237	3,210,289	577,271
2015	2,530	15	51	13	221,089	53,254	247,701	3,316,334	2,715,970	3,220,117
2016	2,509	13	57	16	140,368	42,371	96,609	1,824,789	2,415,155	1,545,751
2017	2,489	9	69	15	195,187	40,031	111,952	1,756,684	2,762,162	1,679,276
2018	2,487	9	61	7	149,344	50,715	170,918	1,344,095	3,093,608	1,196,423
2019	2,413	7	70	12	127,657	44,566	169,343	893,598	3,119,599	2,032,120
2020	2,408	10	48	7	161,874	28,273	115,228	1,618,737	1,357,083	806,595
2021	2,405	14	42	5	134,871	51,833	98,956	1,888,191	2,176,972	494,778
2022	2,371	14	20	3	203,463	132,010	185,719	2,848,486	2,640,205	557,156
2023	2,347	17	25	11	105,205	103,934	57,635	1,788,484	2,598,347	633,984
2024	2,324	12	10	10	159,214	159,305	67,650	1,910,563	1,593,051	676,505
2025	2,300	13	27	7	180,601	78,835	136,790	2,333,112	2,148,795	1,019,203
2026	2,277	13	24	7	184,553	80,603	137,970	2,415,110	1,958,809	984,239
2027	2,254	13	21	7	188,504	82,371	139,150	2,499,622	1,749,213	946,865
2028	2,231	13	18	6	192,455	84,140	140,330	2,585,509	1,528,772	908,716
2029	2,208	14	15	6	196,407	85,908	141,510	2,672,771	1,297,488	869,789
2030	2,185	14	12	6	200,358	87,676	142,690	2,761,409	1,055,359	830,086
2031	2,161	7	4	3	204,310	89,445	143,870	1,425,711	401,193	394,803

Notes: Future RYs for Cols (2), (6), (7), and (8) are linearly interpolated against report year.
Future RYs for Cols (3), (4), and (5) are linearly interpolated against Col (2).
Col (9) = (3) x (6); Col (10) = (4) x (7); Col (11) = (5) x (8).

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance AST Claims
Projection of Future Frequencies and Severities

(1)	(2)	(3)	(4)	(5)
<u>RY</u>	<u>AST POLS IN FORCE</u>	<u>REPORTED CLAIMS</u>	<u>ULTIMATE SEVERITY</u>	<u>ULTIMATE LOSS</u>
1998		1	2,689,230	2,689,230
1999		7	170,828	1,195,793
2000		13	514,690	6,690,965
2001		24	96,222	2,309,328
2002		18	89,329	1,607,917
2003		21	163,085	3,424,778
2004		21	102,547	2,153,485
2005		19	117,310	2,228,883
2006		11	106,692	1,173,608
2007		12	48,494	581,934
2008	517	12	81,263	975,155
2009	563	11	131,994	1,451,938
2010	578	12	123,761	1,485,126
2011	810	13	212,800	2,766,403
2012	975	16	91,242	1,459,869
2013	1,003	23	43,375	997,617
2014	1,030	11	183,480	2,018,280
2015	1,021	16	165,987	2,655,790
2016	1,010	11	434,439	4,778,826
2017	1,005	17	218,043	3,706,732
2018	999	20	291,709	5,834,182
2019	989	18	133,540	2,403,721
2020	978	15	304,862	4,572,931
2021	965	12	309,862	3,718,338
2022	942	18	199,040	3,582,722
2023	914	11	326,454	3,590,994
2024	892	11	301,720	3,318,921
2025	896	13	313,358	4,181,446
2026	882	13	324,995	4,270,423
2027	869	13	336,633	4,354,651
2028	855	13	348,270	4,434,129
2029	841	13	359,908	4,508,859
2030	828	12	371,545	4,578,839
2031	814	6	383,183	2,322,035

Notes: Future RYs for Col (2) are increased by a decreasing percentage to a maximum of 1,027 based on assumptions from PSTIF.
Future RYs for Col (3) are linearly interpolated against Col (2).
Col (5) = (3) x (4).

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial Claims
Projection of Future Frequencies and Severities

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	POTENTIAL SITES		REPORTED CLAIM COUNTS		% REPORTED ON PREV YR		ULTIMATE LOSS SEVERITY		ULTIMATE LOSS	
RY	UST	AST	UST	AST	UST	AST	UST	AST	UST	AST
1998	15,479	2,402	319	12			60,708	55,219	19,366,010	662,628
1999	14,166	2,399	378	11	2.44%	0.46%	22,604	158,324	8,544,393	1,741,560
2000	13,952	2,399	558	50	3.94%	2.08%	29,459	122,737	16,438,326	6,136,838
2001	13,633	2,387	343	204	2.46%	8.50%	9,812	11,073	3,365,637	2,258,986
2002	13,255	2,376	126	18	0.92%	0.75%	25,803	13,305	3,251,136	239,493
2003	12,696	2,327	39	4	0.29%	0.17%	29,437	138,806	1,148,056	555,224
2004	12,354	2,123	62	13	0.49%	0.56%	40,325	159,585	2,500,145	2,074,609
2005	12,228	2,105	38	8	0.31%	0.38%	75,485	9,980	2,868,428	79,838
2006	12,189	2,101	21	12	0.17%	0.57%	40,136	-	842,854	-
2007	12,129	2,088	30	3	0.25%	0.14%	48,055	13,917	1,441,642	41,750
2008	12,021	2,055	24	10	0.20%	0.48%	29,400	5,179	705,588	51,787
2009	12,003	2,051	18	4	0.15%	0.19%	48,259	45,914	868,654	183,657
2010	11,973	2,049	30	2	0.25%	0.10%	29,442	-	883,257	-
2011	11,936	2,044	37	5	0.31%	0.24%	53,080	-	1,963,944	-
2012	11,915	2,040	21	4	0.18%	0.20%	14,558	-	305,720	-
2013	11,887	2,040	28	-	0.23%	0.00%	54,860	-	1,536,070	-
2014	11,853	2,039	34	1	0.29%	0.05%	30,747	-	1,045,386	-
2015	11,834	2,038	19	1	0.16%	0.05%	6,499	155,510	123,477	155,510
2016	11,810	2,038	24	-	0.20%	0.00%	55,953	-	1,342,862	-
2017	11,790	2,037	20	1	0.17%	0.05%	46,261	59,359	925,222	59,359
2018	11,776	2,036	14	1	0.12%	0.05%	72,727	-	1,018,184	-
2019	11,759	2,036	17	-	0.14%	0.00%	40,174	-	682,965	-
2020	11,745	2,035	14	1	0.12%	0.05%	28,977	61,158	405,673	61,158
2021	11,735	2,034	10	1	0.09%	0.05%	31,398	95,676	313,984	95,676
2022	11,727	2,034	8	-	0.07%	0.00%	102,902	-	823,213	-
2023	11,718	2,034	9	-	0.08%	0.00%	56,803	-	511,223	-
2024	11,712	2,034	6	-	0.05%	0.00%	96,106	-	576,635	-
2025	11,700	2,034	12	0	0.10%	0.02%	32,843	39,339	400,419	19,645
2026	11,689	2,033	11	0	0.10%	0.02%	32,843	39,339	368,661	17,189
2027	11,678	2,033	11	0	0.09%	0.02%	32,843	39,339	357,364	14,426
2028	11,668	2,032	10	0	0.09%	0.02%	32,843	39,339	332,451	16,226
2029	11,658	2,032	10	0	0.08%	0.02%	32,843	39,339	316,654	13,342
2030	11,648	2,032	10	0	0.08%	0.01%	32,843	39,339	315,192	10,097
2031	11,644	2,031	5	0	0.08%	0.01%	32,843	39,339	157,466	10,096

Notes: Future RYs for Cols (2) and (3) are [prior year sites] x (1 - [% reported from col (6) or (7)])
Future RYs for Cols (4) and (5) are the change in Cols (2) and (3), respectively.
Future RYs for Cols (6) and (7) are rolling average of prior 10 years.
Future RYs for Cols (8) and (9) are long-term averages from 1999-2022

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types
Cash Flow Summary

UNDISCOUNTED VALUE OF CURRENT RESERVES - PAYMENT STREAM

<u>Category</u>	<u>Total</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>After 2033</u>
Insurance UST - Release	13,325,092	1,769,540	1,603,960	1,383,020	1,209,914	1,009,511	818,426	720,697	709,589	657,793	3,442,641
Insurance UST - Closure	17,163,336	2,859,560	2,044,042	1,664,869	1,421,405	1,030,854	938,287	865,656	814,894	749,908	4,773,861
Insurance UST - Other	10,479,445	1,653,262	1,299,606	1,057,867	941,418	861,920	692,935	582,083	553,617	458,230	2,378,507
Remedial UST	19,237,092	1,760,533	1,449,425	1,403,404	1,296,695	1,235,411	1,215,688	1,231,500	1,234,970	1,203,007	7,206,459
Insurance AST	26,377,966	3,303,937	2,965,015	2,600,262	2,311,506	1,993,484	1,769,576	1,658,100	1,384,661	1,260,455	7,130,970
Remedial AST	2,446,837	217,956	240,993	234,906	227,838	233,143	232,217	236,415	230,608	230,308	362,452
Total	89,029,768	11,564,788	9,603,041	8,344,328	7,408,777	6,364,323	5,667,130	5,294,452	4,928,338	4,559,700	25,294,890
Percent of Current Total											
Paid by Year - Undiscounted	100.0%	13.0%	10.8%	9.4%	8.3%	7.1%	6.4%	5.9%	5.5%	5.1%	28.4%

DISCOUNTED VALUE OF CURRENT RESERVES - PAYMENT STREAM

<u>Category</u>	<u>Total</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>After 2033</u>
Insurance UST - Release	12,155,822	1,756,416	1,568,536	1,332,489	1,148,480	944,091	754,078	654,220	634,616	579,599	2,783,296
Insurance UST - Closure	15,597,945	2,838,351	1,998,899	1,604,039	1,349,233	964,051	864,515	785,808	728,795	660,764	3,803,491
Insurance UST - Other	9,622,236	1,641,000	1,270,903	1,019,216	893,617	806,064	638,454	528,391	495,124	403,759	1,925,707
Remedial UST	17,169,640	1,747,475	1,417,414	1,352,128	1,230,854	1,155,352	1,120,105	1,117,906	1,104,489	1,060,003	5,863,915
Insurance AST	23,948,278	3,279,433	2,899,532	2,505,255	2,194,138	1,864,299	1,630,445	1,505,156	1,238,363	1,110,621	5,721,037
Remedial AST	2,258,892	216,340	235,671	226,323	216,270	218,034	213,959	214,608	206,243	202,930	308,514
Total	80,752,812	11,479,016	9,390,954	8,039,449	7,032,591	5,951,891	5,221,556	4,806,088	4,407,630	4,017,676	20,405,959
Percent of Current Total											
Paid by Year - Discounted	100.0%	14.2%	11.6%	10.0%	8.7%	7.4%	6.5%	6.0%	5.5%	5.0%	25.3%

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types
ALAE Provision

(1) <u>RY</u>	(2) <u>PAID LOSS</u>	(3) <u>INCURRED LOSS</u>	(4) <u>PAID ALAE</u>	(5) <u>ALAE PER \$10K PAID LOSS</u>	(6) <u>CASE RESERVE</u>	(7) <u>IBNR</u>	(8) <u>ALAE UNPAID</u>	(9) <u>ULTIMATE ALAE</u>
1994	4,464,554	4,774,780	7,777	17.42	310,226	-	1,851	9,628
1995	4,187,026	4,387,026	9,365	22.37	200,000	-	1,193	10,558
1996	72,175,959	78,709,784	139,514	19.33	6,533,825	-	38,987	178,501
1997	18,839,759	19,526,331	44,586	23.67	686,572	112,481	4,768	49,354
1998	28,208,646	30,581,442	88,045	31.21	2,372,796	262,614	15,725	103,770
1999	24,101,585	25,515,287	79,306	32.90	1,413,702	66,098	8,830	88,136
2000	31,678,844	35,421,183	92,942	29.34	3,742,338	57,684	22,674	115,617
2001	14,722,235	16,670,595	57,288	38.91	1,948,360	11,810	11,696	68,984
2002	14,377,471	15,463,570	49,920	34.72	1,086,100	27,809	6,647	56,567
2003	11,602,206	12,930,930	56,525	48.72	1,328,723	43,469	8,188	64,712
2004	14,494,744	16,220,624	138,979	95.88	1,725,880	102,271	10,908	149,888
2005	9,912,799	11,589,855	111,000	111.98	1,677,057	154,198	10,927	121,927
2006	7,937,433	8,937,760	66,787	84.14	1,000,327	228,757	7,334	74,121
2007	9,482,898	9,856,541	98,631	104.01	373,643	203,448	3,443	102,075
2008	8,101,508	8,500,349	40,755	50.31	398,841	230,290	3,754	44,509
2009	5,491,076	5,812,077	30,170	54.94	321,001	208,348	3,159	33,329
2010	3,985,006	5,237,767	33,062	82.97	1,252,762	212,505	8,743	41,805
2011	7,434,976	9,501,983	36,882	49.61	2,067,007	639,646	16,150	53,033
2012	6,898,924	7,336,977	33,756	48.93	438,053	604,522	6,221	39,977
2013	6,590,917	7,785,890	30,290	45.96	1,194,973	681,303	11,196	41,486
2014	5,091,236	6,900,102	28,652	56.28	1,808,866	836,698	15,786	44,438
2015	8,714,456	10,160,399	47,306	54.28	1,445,943	1,389,289	16,918	64,224
2016	6,153,943	8,663,322	27,283	44.33	2,509,379	1,121,025	21,662	48,945
2017	7,508,123	10,220,285	42,424	56.50	2,712,162	1,741,244	26,573	68,997
2018	6,061,169	8,558,476	31,332	51.69	2,497,307	1,800,567	25,645	56,977
2019	7,106,341	9,988,734	43,232	60.84	2,882,392	2,573,730	32,556	75,788
2020	2,613,615	4,607,975	18,747	71.73	1,994,360	2,044,991	24,103	42,850
2021	3,626,126	7,135,636	21,235	58.56	3,509,511	2,406,896	35,303	56,538
2022	3,665,176	7,208,127	25,262	68.92	3,542,950	3,379,272	41,304	66,567
2023	1,930,067	5,039,537	19,738	102.26	3,109,469	4,093,343	42,979	62,716
2024	546,226	2,606,985	11,135	203.85	2,060,759	5,770,175	46,727	57,861
TOTAL ALL YEARS	357,705,042	415,850,327	1,561,928	43.67	58,145,285	31,004,483	531,951	2,093,879
		Wtd. Average 2014-2022		56.48				
		Wtd. Average 2014-2024		59.67				
		Straight Average All Years		59.89				
		Weighted Average All Years		43.67				
		SELECTED RATIO		59.67				

Notes: Col (5) = (4) / (3) x 10,000
Col (8) = [(6) + (7)] x Selected Ratio / 10,000
Col (9) = (8) + (4)

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
All Claim Types
ULAE Provision

(1) FISCAL YEAR	(2) CONTRACTED FUND ADMIN FEES	(3) FY PAID LOSS	(4) AVERAGE FEES PER CY PAID
2006	2,895,762	12,847,713	0.225
2007	3,087,143	12,185,369	0.253
2008	3,124,118	15,806,387	0.198
2009	3,456,283	16,148,518	0.214
2010	3,289,570	14,134,856	0.233
2011	3,185,415	11,632,025	0.274
2012	3,188,828	12,461,529	0.256
2013	3,043,682	10,845,847	0.281
2014	3,116,377	10,116,592	0.308
2015	3,207,502	12,588,056	0.255
2016	3,255,111	13,762,021	0.237
2017	3,325,325	15,115,087	0.220
2018	3,176,324	13,127,399	0.242
2019	3,075,361	14,820,330	0.208
2020	2,835,776	12,260,319	0.231
2021	2,577,708	8,741,496	0.295
2022	2,828,920	8,981,440	0.315
2023	2,814,296	10,252,864	0.274
2024	2,758,742	10,256,319	0.293
Total	58,242,244	236,084,167	0.247
(7) 3-Year Average			0.294
(8) 5-Year Average			0.282
(9) 10-Year ex. Hi/Lo			0.256
(10) Selected			0.282
(11) [Case O/S + IBNR] x 70%			62,404,837
(12) ULAE IBNR = (10) x (11)			17,586,609
(13) Discount			1,634,999
(14) Discounted ULAE IBNR = (12) - (13)			15,951,610

Note: Total row in Column (4) reflects a weighted average.
FY 2024 value in Column (4) is adjusted to reflect a full year of data.

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Release
Summary of Paid Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
BY	PAGE LDM ULTIMATE	PAGE LOSS	INCURRED LOSS	CASE RESERVE	RISK RESERVE	UNPAID LOSS
1994	246,661	246,661	246,661	-	-	-
1995	241,953	241,953	241,953	-	-	-
1996	2,255,030	1,392,387	2,255,030	862,643	-	862,643
1997	1,995,927	1,995,927	1,995,927	-	-	-
1998	1,387,581	1,340,765	1,352,666	11,900	14,915	26,815
1999	142,573	142,573	142,573	-	-	-
2000	1,817,407	1,772,486	1,817,407	44,921	-	44,921
2001	1,089,419	1,064,144	1,084,144	20,000	5,275	25,275
2002	713,587	644,203	713,587	69,383	-	69,383
2003	1,980,868	1,980,868	1,980,868	-	-	-
2004	1,355,398	1,305,456	1,310,240	4,785	45,158	49,943
2005	1,680,933	1,009,263	1,680,933	671,670	-	671,670
2006	161,243	161,243	161,243	-	-	-
2007	2,543,299	2,381,747	2,412,265	30,519	131,033	161,552
2008	2,143,880	1,968,185	2,021,307	53,122	122,374	175,496
2009	878,624	783,624	879,624	96,000	-	96,000
2010	674,592	462,377	674,592	212,214	-	212,214
2011	2,343,711	2,021,632	2,191,528	109,896	152,383	222,079
2012	1,096,407	910,479	968,116	57,637	128,291	185,928
2013	311,900	244,337	301,974	57,637	9,926	67,563
2014	1,884,435	1,440,421	1,805,599	305,178	78,836	444,014
2015	3,501,276	2,533,333	2,793,537	260,204	707,739	967,943
2016	1,722,763	1,300,561	1,690,349	489,768	32,414	522,201
2017	1,846,209	1,728,971	1,777,085	148,715	468,323	617,238
2018	1,163,322	734,336	986,206	251,870	177,116	428,986
2019	568,414	324,921	515,267	134,146	40,147	245,493
2020	1,439,229	898,864	1,314,495	617,631	122,734	740,365
2021	1,764,698	719,056	1,474,025	754,968	290,673	1,045,642
2022	3,870,144	1,161,602	1,162,095	1,001,093	1,642,449	2,443,541
2023	1,580,463	256,734	1,022,401	765,667	938,062	1,323,729
2024	2,788,459	145,623	713,312	607,709	2,035,173	2,642,882
TOTAL	47,306,450	32,514,932	40,334,429	7,818,497	6,772,021	14,591,518

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EL	Development Period in Months																														
	12-15	16-25	26-35	36-50	51-72	73-82	83-95	96-108	109-120	121-152	153-165	166-180	181-202	203-224	225-245	246-265	266-285	286-300	301-315	316-325	326-345	346-360	361-375	376-385	386-400	401-415	416-425	426-445	446-460	461-475	
1994	1.000			1.000	1.000	1.000	1.000	1.229	1.242	1.000	1.152	1.218	1.191	1.000	1.041	1.000	1.124	1.045	1.000	1.000	1.131	1.120	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1995					1.338	1.591	1.565	1.604	1.133	1.194	1.116	1.134	1.276	1.083	1.109	1.066	1.050	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1996	2.058	1.106	1.151	1.809	1.193	1.122	1.105	1.000	1.000	1.272	1.100	1.366	1.049	1.032	1.091	1.082	1.016	1.000	1.044	1.013	1.008	1.060	1.030	1.030	1.005	1.027	1.043	1.045	1.039		
1997	2.504	1.377	1.216	1.114	1.750	1.408	1.098	1.091	1.047	1.081	1.048	1.086	1.021	1.086	1.015	1.015	1.018	1.008	1.002	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1998	2.695	1.438	1.290	1.798	1.112	1.037	1.063	1.235	1.015	1.063	1.019	1.007	1.015	1.003	1.024	1.076	1.009	1.044	1.013	1.000	1.017	1.011	1.005	1.000	1.000	1.000	1.000	1.000	1.000		
1999		1.380	1.009	1.340	1.304	1.130	1.013	1.000	1.000	1.000	1.051	1.138	1.025	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2000		1.172	1.271	1.381	1.569	1.028	1.000	1.037	1.008	1.014	1.107	1.052	1.000	1.028	1.000	1.040	1.000	1.006	1.005	1.008	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2001	9.416	1.820	1.430	1.250	1.084	1.030	1.050	1.160	1.045	1.091	1.000	1.010	1.083	1.052	1.040	1.030	1.010	1.003	1.008	1.003	1.009	1.027									
2002	14.784	1.513	1.247	1.144	1.278	1.063	1.012	1.115	1.050	1.057	1.006	1.070	1.047	1.000	1.001	1.012	1.015	1.002	1.002	1.000	1.015	1.000									
2003	9.240	1.459	1.219	1.132	1.061	1.179	1.212	1.043	1.004	1.098	1.104	1.046	1.043	1.033	1.064	1.075	1.056	1.037	1.017	1.006	1.000										
2004	1.443	1.182	1.108	1.442	1.231	1.095	1.286	1.072	1.121	1.050	1.235	1.147	1.097	1.229	1.068	1.024	1.022	1.016	1.019	1.031											
2005	1.066	1.071	0.928	1.293	1.177	1.428	1.189	1.256	1.219	1.137	1.032	1.134	1.099	1.031	1.057	1.021	1.034	1.035	1.004												
2006	1.000	1.000	0.470	1.171	1.049	1.000	1.000	1.067	1.111	1.120	1.145	1.000	1.000	1.000	1.000	1.000	1.000	1.000													
2007	13.702	1.333	1.254	1.074	1.120	1.072	1.054	1.010	1.170	1.034	1.022	1.033	1.001	1.007	1.003	1.004															
2008	1.316	1.096	1.028	1.066	1.055	1.037	1.093	1.155	1.059	1.027	1.037	1.009	1.003	1.014	1.015	1.024															
2009	4.004	1.255	1.467	1.039	1.050	1.036	1.017	1.024	1.055	1.052	1.002	1.000	1.000	1.000																	
2010	17.254	1.587	1.461	1.027	1.217	1.205	1.049	1.050	1.141	1.056	1.173	1.040																			
2011	5.534	1.347	1.215	1.179	1.094	1.119	1.021	1.044	1.031	1.022	1.015	1.004	1.006																		
2012	3.464	2.126	1.414	1.120	1.404	1.089	1.087	1.085	1.067	1.011	1.025																				
2013	1.409	1.931	1.151	1.115	1.446	1.219	1.045	1.015	1.000	1.047	1.110																				
2014	19.137	1.225	1.156	1.068	1.098	1.037	1.024	1.049	1.025	1.055																					
2015	5.264	1.996	1.271	1.149	1.101	1.113	1.056	1.054	1.030																						
2016	28.197	1.598	1.317	1.397	1.096	1.233	1.068	1.039																							
2017	1.359	1.163	1.067	1.041	1.031	1.043																									
2018	9.001	2.419	1.204	1.213	1.211	1.056																									
2019	6.552	2.010	1.171	1.112	1.101																										
2020	9.425	2.717	1.400																												
2021		1.642	1.473																												
2022	12.113																														
VOL WTD 3	4.253	1.819	1.401	1.280	1.097	1.108	1.055	1.049	1.027	1.039	1.027	1.035	1.024	1.014	1.007	1.012	1.015	1.023	1.014	1.013	1.003	1.003	1.010	1.004	1.000	1.012	1.016	1.029	1.000	1.000	
VOL WTD 5	4.591	1.904	1.234	1.215	1.098	1.095	1.048	1.052	1.031	1.038	1.022	1.022	1.012	1.011	1.014	1.016	1.028	1.026	1.012	1.011	1.004	1.005	1.005	1.003	1.003	1.007	1.011	1.015	1.029	1.000	1.000
VOL WTD ALL	1.111	1.491	1.244	1.186	1.147	1.106	1.068	1.072	1.078	1.056	1.040	1.060	1.039	1.028	1.032	1.034	1.018	1.018	1.009	1.007	1.014	1.012	1.003	1.003	1.006	1.011	1.015	1.029	1.000	1.000	
ARITH 3	7.423	2.036	1.365	1.253	1.118	1.111	1.055	1.047	1.016	1.038	1.053	1.099	1.060	1.018	1.006	1.004	1.009	1.014	1.017	1.013	1.012	1.006	1.003	1.009	1.003	1.000	1.015	1.015	1.013	1.000	1.000
ARITH 5	7.706	2.107	1.273	1.240	1.110	1.097	1.047	1.048	1.031	1.055	1.036	1.061	1.037	1.012	1.015	1.014	1.024	1.018	1.011	1.011	1.005	1.004	1.006	1.003	1.005	1.009	1.011	1.013	1.000	1.000	
ARITH ALL	7.664	1.645	1.483	1.438	1.185	1.138	1.100	1.104	1.103	1.072	1.062	1.117	1.075	1.032	1.044	1.034	1.017	1.022	1.022	1.007	1.014	1.023	1.023	1.002	1.004	1.009	1.011	1.013	1.000	1.000	
5 YR HI LO	7.988	2.052	1.275	1.347	1.099	1.071	1.047	1.047	1.029	1.041	1.022	1.031	1.003	1.007	1.006	1.016	1.021	1.018	1.011	1.007	1.003	1.003	1.002	1.002	1.002	1.000	1.001	1.000	1.000	NA	NA
7 YR HI LO	6.873	1.879	1.283	1.192	1.123	1.104	1.047	1.047	1.038	1.041	1.025	1.015	1.018	1.028	1.017	1.020	1.015	1.008	1.004	1.005	1.004	1.006	1.001	1.000	1.001	1.000	1.000	1.000	NA	NA	
ALL YR HI LO	7.650	1.809	1.385	1.246	1.177	1.124	1.083	1.085	1.088	1.085	1.055	1.109	1.067	1.021	1.037	1.019	1.015	1.014	1.012	1.005	1.006	1.011	1.010	1.001	1.000	1.001	1.000	1.000	NA	NA	
SELECTED	3.111	1.879	1.335	1.192	1.177	1.104	1.055	1.047	1.038	1.056	1.025	1.089	1.018	1.028	1.017	1.020	1.015	1.008	1.005	1.005	1.004	1.005	1.003	1.003	1.000	1.001	1.000	1.000	1.000	1.000	

TAIL
1.020

Development in Months																						
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	
1994	-	-	-	-	43,694	43,694	43,694	43,694	43,694	66,694	66,694	76,832	93,580	111,486	111,486	132,821	138,273	138,273	155,391	178,532	178,532	246,661
1995	-	-	-	-	-	15,175	20,605	32,780	51,312	82,297	93,282	111,391	124,261	140,954	179,922	194,810	216,027	230,340	241,953	241,953	241,953	
1996	60,606	127,123	140,605	161,781	305,670	394,732	394,537	442,597	453,495	453,495	576,781	576,781	797,820	826,524	853,309	938,849	1,007,352	1,023,213	1,023,213	1,082,062	1,080,678	
1997	150,598	377,057	515,125	631,334	703,267	879,004	1,237,096	1,359,105	1,481,423	1,553,597	1,679,250	1,760,677	1,797,439	1,862,946	1,890,296	1,917,996	1,962,800	1,968,351	1,972,784	1,976,544	1,995,927	
1998	71,919	193,815	278,696	359,433	446,106	718,507	745,388	792,136	974,580	992,873	1,055,025	1,075,457	1,082,693	1,099,371	1,103,031	1,129,278	1,215,534	1,226,074	1,280,060	1,296,308	1,296,308	
1999	-	12,345	16,113	48,463	64,952	94,727	91,744	98,894	98,894	98,894	103,964	139,096	142,573	142,573	142,573	142,573	142,573	142,573	142,573	142,573	142,573	
2000	-	140,585	440,302	566,818	782,614	1,232,212	1,298,340	1,298,340	1,346,953	1,357,619	1,376,791	1,324,125	1,603,791	1,603,891	1,640,008	1,715,267	1,715,267	1,724,971	1,731,353	1,746,733	1,758,542	
2001	16,703	137,277	286,167	409,158	511,400	554,458	571,001	599,455	695,506	726,001	792,033	792,033	801,191	867,543	912,396	948,559	976,545	996,294	1,012,739	1,016,169	1,024,716	
2002	9,216	136,257	206,137	257,078	302,105	383,621	407,778	420,844	485,920	509,080	539,053	542,002	580,088	607,282	607,282	609,321	616,509	625,847	627,301	634,837	644,203	
2003	21,836	202,209	294,954	359,527	407,049	431,955	595,741	722,007	752,772	1,132,407	1,243,625	1,372,437	1,435,580	1,497,429	1,546,971	1,643,324	1,708,175	1,867,367	1,936,684	1,969,276	1,980,868	
2004	71,257	117,101	161,795	178,485	257,392	316,743	346,872	446,145	478,479	536,422	563,361	707,282	811,449	890,246	1,094,026	1,108,514	1,190,043	1,222,862	1,242,288	1,266,265	1,305,456	
2005	12,800	33,461	22,790	125,995	162,844	191,715	273,756	325,318	408,831	498,368	566,691	584,630	708,192	844,136	876,365	920,393	939,652	971,431	1,000,600	1,000,563		
2006	-	8,947	8,947	57,884	67,789	71,084	71,084	71,084	97,281	103,765	125,694	140,820	161,243	161,243	161,243	161,243	161,243	161,243	161,243	161,243	161,243	
2007	58,888	808,267	1,077,402	1,350,391	1,464,130	1,638,782	1,745,892	1,840,192	1,882,776	2,174,856	2,247,778	2,297,257	2,327,742	2,329,809	2,345,987	2,353,741	2,362,765	2,362,765	2,362,765	2,362,765	2,362,765	
2008	750,154	987,266	1,081,739	1,111,591	1,185,280	1,249,946	1,296,178	1,417,026	1,636,341	1,733,534	1,780,630	1,845,959	1,863,871	1,867,753	1,893,642	1,922,224	1,968,385					
2009	81,174	124,978	407,777	508,236	621,700	652,756	676,540	688,297	704,856	743,523	781,868	783,624	783,624	783,624	783,624	783,624	783,624	783,624	783,624	783,624	783,624	
2010	3,627	62,582	99,320	145,127	148,953	181,398	194,462	234,328	245,727	258,129	296,469	299,102	378,913	444,452	444,452	462,377						
2011	134,434	743,915	1,002,304	1,217,775	1,435,417	1,569,874	1,756,333	1,793,765	1,872,292	1,930,240	1,973,544	2,002,952	2,010,201	2,021,632								
2012	35,519	123,028	261,546	359,814	440,068	617,743	673,028	731,313	795,679	847,115	856,110	886,202	910,479									
2013	32,189	45,369	87,594	100,842	112,450	162,648	198,229	207,067	210,187	220,060	244,337											
2014	37,615	719,825	882,491	1,019,963	1,088,861	1,195,738	1,239,479	1,269,589	1,332,249	1,365,417	1,440,421											
2015	117,985	618,928	1,235,365	1,569,852	1,895,485	1,985,126	2,210,171	2,333,718	2,459,229	2,533,333												
2016	9,664	272,486	435,421	573,268	800,813	877,440	1,081,888	1,155,656	1,200,561													
2017	626,145	851,011	989,479	1,055,893	1,098,659	1,133,161	1,182,226	1,228,971														
2018	17,093	158,351	383,046	461,344	560,047	695,089																
2019	17,223	112,834	226,791	265,564	295,247	324,921																
2020	13,204	124,444	340,837	493,861																		
2021	-	297,198	488,004	719,056																		
2022	287,545	672,450	1,161,602																			
2023	20,816	296,734																				
2024	145,623																					

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance List - Release
Summary of Incurred Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
BY	INC LDM ULTIMATE	PAID LOSS	INCURRED LOSS	CASE RESERVE	IBNR RESERVE	UNPAID LOSS
1994	246,661	246,661	246,661	-	-	-
1995	241,953	241,953	241,953	-	-	-
1996	2,255,030	1,392,387	2,255,030	862,643	-	862,643
1997	1,995,927	1,995,927	1,995,927	-	-	-
1998	1,352,666	1,340,765	1,352,666	11,900	-	11,900
1999	142,573	142,573	142,573	-	-	-
2000	1,817,407	1,772,486	1,817,407	44,921	-	44,921
2001	1,084,144	1,064,144	1,084,144	20,000	-	20,000
2002	713,587	644,203	713,587	69,383	-	69,383
2003	1,980,868	1,980,868	1,980,868	-	-	-
2004	1,210,240	1,305,456	1,310,240	4,785	-	4,785
2005	1,680,933	1,009,263	1,680,933	671,670	-	671,670
2006	161,433	161,243	161,243	-	189	189
2007	2,419,487	2,381,747	2,412,265	30,219	7,222	37,740
2008	2,034,124	1,968,385	2,021,507	53,122	12,617	65,739
2009	885,145	783,624	879,624	96,000	5,521	101,521
2010	691,783	462,377	674,592	212,214	17,191	229,405
2011	2,298,623	2,021,632	2,193,528	169,896	107,096	276,991
2012	1,015,985	910,479	986,116	57,637	47,869	105,507
2013	327,307	244,337	301,974	57,637	25,333	82,970
2014	1,981,653	1,440,421	1,805,599	365,178	176,054	541,232
2015	3,131,392	2,533,333	2,793,537	260,204	337,855	598,059
2016	1,926,815	1,208,561	1,680,349	489,788	236,466	726,254
2017	1,597,976	1,228,971	1,377,685	148,715	220,291	369,006
2018	1,185,589	734,336	986,206	251,870	199,383	451,253
2019	662,144	324,921	519,267	194,346	141,077	337,422
2020	1,743,197	698,864	1,316,495	617,631	426,703	1,044,334
2021	2,011,962	719,056	1,474,025	754,968	537,938	1,292,906
2022	3,169,366	1,161,602	2,162,695	1,001,093	1,006,671	2,007,764
2023	1,705,618	256,734	1,022,401	765,667	683,217	1,448,884
2024	1,632,618	145,623	753,332	607,709	879,286	1,486,995
TOTAL	45,404,406	32,514,932	40,334,428	7,819,497	5,069,977	12,889,474

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024

Insurance UST - Release

Selection of Loss Development Factors

BY	Development Period in Months		24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372
	12-24	24-36																													
1994	1.240	1.000	1.210	1.000	1.000	1.000	1.000	1.000	1.000	1.249	1.000	1.033	1.269	1.000	1.157	1.115	1.000	1.000	1.378	1.010	1.000	1.040	1.091	0.986	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.000	1.000	1.813	1.217	0.548	1.278	1.777	0.919	0.822	1.000	1.000	1.143	1.107	1.000	1.000	1.000	0.923	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.474	1.153	0.784	3.459	1.255	0.930	0.978	1.000	0.819	1.012	1.000	1.041	1.000	1.017	1.385	0.988	1.000	1.000	1.000	1.000	1.000	1.110	1.041	1.310	1.000	1.000	1.052	1.000	1.036	1.000	
1997	1.213	1.080	1.386	1.059	1.155	1.093	1.198	0.957	0.995	0.995	1.000	1.032	1.000	1.000	1.000	1.006	1.000	1.000	1.000	1.000	0.935	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1998	1.576	1.426	1.285	1.532	1.012	1.102	0.971	1.005	1.018	1.004	0.968	1.033	0.947	1.005	1.021	1.014	1.000	0.988	1.000	1.030	1.000	0.978	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1999	0.594	1.000	1.738	1.000	0.952	0.795	0.854	1.000	1.000	1.202	1.256	1.008	0.948	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2000	1.189	1.625	1.185	0.983	0.923	1.013	0.886	1.000	1.022	1.002	0.982	1.121	0.992	1.241	0.993	1.031	1.000	1.009	1.002	0.819	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2001	0.559	0.945	1.079	0.779	1.080	0.964	1.027	1.153	1.000	0.959	1.018	1.000	1.077	1.000	1.019	0.990	1.000	1.000	1.000	1.000	1.000	1.000	1.006	0.977	1.000	1.000	1.000	1.000	1.000	1.000	
2002	1.176	1.166	0.926	1.000	0.907	0.955	1.108	1.007	0.802	1.027	1.043	1.000	0.987	1.000	1.027	1.000	1.000	1.000	1.000	1.000	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2003	0.950	0.919	1.209	0.949	1.229	1.139	1.028	1.018	1.184	1.050	1.000	1.018	1.033	0.993	1.061	0.930	1.005	0.996	0.996	0.969	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2004	0.824	0.891	0.981	1.381	1.024	1.650	1.000	1.033	1.449	1.000	0.960	1.000	1.013	1.114	1.000	1.017	0.951	0.980	1.015	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2005	0.907	1.000	0.996	1.014	0.958	2.418	1.078	1.031	1.029	1.004	0.998	1.215	1.016	1.422	1.031	0.985	1.004	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2006	0.750	1.000	1.349	1.586	1.000	0.942	1.000	1.410	1.000	1.000	1.000	1.000	0.790	1.000	1.000	1.000	0.958	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2007	2.668	1.000	0.995	0.975	1.248	1.011	1.060	1.025	1.000	1.027	1.000	0.964	1.000	1.000	1.000	1.000	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.023	0.933	1.022	1.075	1.010	0.987	1.031	1.128	1.054	1.008	1.007	0.984	1.000	1.000	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2009	0.617	0.966	1.049	1.000	0.980	1.478	0.965	1.000	0.994	1.004	0.788	0.897	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2010	0.722	1.118	0.966	1.105	1.131	0.914	1.000	1.000	1.171	1.041	1.101	1.594	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2011	1.634	1.105	1.092	0.992	0.995	1.011	1.030	0.998	1.000	1.064	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2012	1.001	1.386	1.428	1.273	1.096	0.860	1.036	1.000	1.000	1.019	0.955	1.049	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2013	0.652	0.774	1.000	1.456	1.099	1.108	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2014	1.087	1.038	1.086	1.054	1.027	0.940	1.070	1.023	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2015	1.869	1.252	1.024	1.185	0.966	1.049	1.039	0.995	0.982	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	1.555	1.006	1.138	1.012	1.103	1.140	1.202	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	1.144	1.017	0.917	0.984	1.021	1.000	0.974	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2018	2.028	1.405	1.210	0.916	1.000	0.988	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2019	1.314	0.959	1.090	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2020	1.602	1.577	1.024	1.103	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2021	2.464	0.915	1.107	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2022	2.101	1.052	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2023	3.044	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
VOL WTD 3	2.380	1.096	1.072	1.011	1.010	1.044	1.064	1.004	0.989	1.056	1.000	1.084	0.999	1.000	0.997	1.000	1.003	0.991	1.002	0.986	0.998	1.008	0.992	1.000	1.000	1.020	1.000	1.030	1.000	1.000	1.000
VOL WTD 5	2.102	1.120	1.051	1.004	1.008	1.024	1.063	1.003	0.993	1.058	0.956	1.025	1.000	1.000	1.005	1.000	0.994	0.994	1.002	0.938	0.998	1.000	0.996	1.000	1.000	1.018	1.000	1.030	1.000	1.000	1.000
VOL WTD ALL	1.278	1.093	1.090	1.081	1.044	1.061	1.041	1.018	1.018	1.021	0.989	1.033	1.002	1.056	1.032	0.996	0.996	1.002	1.001	0.957	1.014	1.009	1.054	1.000	1.000	1.018	1.000	1.030	1.000	1.000	1.000
ARITH 3	2.131	1.181	1.074	1.006	1.007	1.043	1.072	1.006	0.994	1.035	1.044	1.215	0.999	1.000	0.998	1.000	0.989	0.993	1.004	0.992	0.997	1.009	0.992	1.000	1.000	1.017	1.000	1.012	1.000	1.000	1.000
ARITH 5	2.105	1.181	1.070	1.003	1.018	1.023	1.057	1.004	0.996	1.042	1.004	1.105	0.999	1.000	1.005	1.000	0.985	0.995	1.002	0.959	0.998	1.001	0.995	1.000	1.000	1.010	1.000	1.012	1.000	1.000	1.000
ARITH ALL	1.333	1.094	1.146	1.191	1.028	1.111	1.055	1.030	1.027	1.024	1.014	1.072	0.995	1.056	1																

Development in Months	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372
1994	50,001	62,000	62,000	75,000	75,000	75,000	75,000	75,000	93,694	93,694	96,832	122,832	122,832	142,070	158,405	158,405	158,405	218,273	220,532	220,532	229,333	250,213	246,661	246,661	246,661	246,661	246,661	246,661	246,661	246,661	246,661
1995	100,005	100,005	100,005	181,297	220,697	220,697	220,697	220,697	251,295	251,295	267,200	286,757	286,757	262,200	262,200	262,200	241,953	241,953	241,953	241,953	241,953	241,953	241,953	241,953	241,953	241,953	241,953	241,953	241,953	241,953	241,953
1996	216,217	367,727	388,272	907,584	907,584	907,584	907,584	907,584	1,163,182	1,117,140	913,235	942,582	980,842	980,842	997,795	1,382,410	1,386,007	1,386,007	1,386,007	1,386,007	1,386,007	1,516,413	1,579,163	2,069,209	2,069,209	2,069,209	2,069,209	2,176,370	2,176,370	2,255,000	
1997	746,677	906,062	978,833	1,136,420	1,466,361	1,659,109	1,831,028	2,172,721	2,079,820	2,067,828	2,057,038	2,121,861	2,122,127	2,122,127	2,122,127	2,135,701	2,135,701	2,135,701	2,135,701	2,135,701	1,995,927	1,995,927	1,995,927	1,995,927	1,995,927	1,995,927	1,995,927	1,995,927	1,995,927	1,995,927	1,995,927
1998	280,352	441,921	629,991	809,760	1,240,170	1,255,193	1,382,637	1,342,716	1,299,823	1,373,262	1,378,815	1,334,932	1,305,491	1,312,171	1,330,990	1,588,000	1,588,000	1,588,000	1,588,000	1,588,000	1,381,308	1,381,308	1,381,308	1,381,308	1,381,308	1,381,308	1,381,308	1,381,308	1,381,308	1,381,308	1,381,308
1999	48,809	87,973	87,973	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666	152,666
2000	830,029	986,785	986,785	1,900,891	1,868,003	1,868,003	1,724,741	1,767,551	1,548,700	1,548,700	1,582,140	1,585,805	1,557,714	1,746,592	1,731,797	2,148,891	2,138,481	2,199,740	2,199,740	2,199,740	2,219,267	2,223,018	1,820,018	1,820,018	1,820,018	1,820,018	1,820,018	1,820,018	1,820,018	1,820,018	1,820,018
2001	1,862,012	1,040,851	983,642	1,055,626	827,034	792,983	860,467	881,417	1,018,928	1,018,928	977,435	995,386	995,386	995,386	1,071,788	1,071,788	1,092,066	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236	1,081,236
2002	674,164	792,896	924,518	855,817	855,817	775,594	741,003	821,003	826,548	682,748	680,688	709,949	709,949	709,949	709,949	709,949	719,666	719,666	719,666	719,666	719,666	719,666	719,666	719,666	719,666	719,666	719,666	719,666	719,666	719,666	719,666
2003	1,099,012	676,170	1,086,470	952,537	952,537	1,242,129	1,528,804	1,571,990	1,599,755																						

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Release
Determination of Pure Premium

(1) <u>RY</u>	(2) <u>PAID LDM ULTIMATE</u>	(3) <u>INC LDM ULTIMATE</u>	(4) <u>SELECTED ULTIMATE</u>	(5) <u>POLICIES IN FORCE</u>	(6) <u>PURE PREMIUM</u>
1994					
1995					
1996					
1997					
1998					
1999					
2000					
2001					
2002					
2003					
2004					
2005					
2006					
2007					
2008	2,143,880	2,034,124	2,089,002	2,664	784
2009	879,624	885,145	882,384	2,662	331
2010	674,592	691,783	683,187	2,622	261
2011	2,343,711	2,298,623	2,321,167	2,623	885
2012	1,096,407	1,015,985	1,056,196	2,617	404
2013	311,900	327,307	319,603	2,603	123
2014	1,884,435	1,981,653	1,933,044	2,573	751
2015	3,501,276	3,131,392	3,316,334	2,530	1,311
2016	1,722,763	1,926,815	1,824,789	2,509	727
2017	1,846,209	1,597,976	1,722,092	2,489	692
2018	1,163,322	1,185,589	1,174,455	2,487	472
2019	568,414	662,344	615,379	2,413	255
2020	1,439,229	1,743,197	1,591,213	2,408	661
2021	1,764,698	2,011,962	1,888,330	2,405	785
2022	3,805,144	3,169,366	3,487,255	2,371	1,471
2023	1,580,463	1,705,618	1,643,041	2,347	700
2024	2,788,505	1,632,618	1,632,618	2,319	704
TOTAL	29,514,572	28,001,498	28,180,091	42,642	661

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Release
Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
RY	POLICIES IN FORCE	PROJECTED PURE PREM	TRENDED PURE PREM	DETRENDED PURE PREM	EXPECTED LOSSES	PERCENT UNPAID	EXPECTED UNPAID	PAID LOSSES	INDICATED ULTIMATE	INCURRED LOSSES	IBNR RESERVE	CASE RESERVE	ULTIMATE PURE PREM
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	2,664	784	1,518	479	1,277,292	8.2%	104,558	1,968,385	2,072,942	2,021,507	51,436	53,122	778
2009	2,662	331	616	500	1,330,150	9.7%	129,042	783,624	912,666	879,624	33,042	96,000	343
2010	2,622	261	465	521	1,365,407	12.2%	165,918	462,377	628,295	674,592	(46,297)	212,214	240
2011	2,623	885	1,514	543	1,423,523	13.7%	195,624	2,021,632	2,217,256	2,191,528	25,729	169,896	845
2012	2,617	404	662	566	1,480,153	17.0%	251,004	910,479	1,161,483	968,116	193,367	57,637	444
2013	2,603	123	193	589	1,534,312	21.7%	332,359	244,337	576,696	301,974	274,722	57,637	222
2014	2,573	751	1,135	614	1,580,579	23.6%	372,419	1,440,421	1,812,840	1,805,599	7,241	365,178	705
2015	2,530	1,311	1,901	640	1,619,696	27.6%	447,772	2,533,333	2,981,105	2,793,537	187,568	260,204	1,178
2016	2,509	727	1,012	667	1,673,981	30.3%	507,415	1,200,561	1,707,976	1,690,349	17,627	489,788	681
2017	2,489	692	924	695	1,730,658	33.4%	578,606	1,228,971	1,807,577	1,377,685	429,892	148,715	726
2018	2,487	472	605	725	1,802,183	36.9%	664,573	734,336	1,398,909	986,206	412,702	251,870	562
2019	2,413	255	314	755	1,822,289	42.8%	780,617	324,921	1,105,539	519,267	586,272	194,346	458
2020	2,408	661	780	787	1,895,191	51.4%	974,921	698,864	1,673,784	1,316,495	357,290	617,631	695
2021	2,405	785	889	820	1,972,643	59.3%	1,168,856	719,056	1,887,912	1,474,025	413,887	754,968	785
2022	2,371	1,471	1,597	855	2,026,757	69.5%	1,408,045	1,161,602	2,569,648	2,162,695	406,952	1,001,093	1,084
2023	2,347	700	730	891	2,090,835	83.8%	1,751,195	256,734	2,007,929	1,022,401	985,528	765,667	856
2024	2,319	704	704	928	2,153,001	94.8%	2,040,566	145,623	2,186,189	753,332	1,432,857	607,709	943
TOTAL	42,642				28,778,650		11,873,489	16,835,256	28,708,746	22,938,932	5,769,814	6,103,676	673
	<u>Pure Premium Selection</u>				Trend =	1.042							
	3-Year Average x Latest			1,072									
	5-Year Average x Latest			862									
	All Year Average x Latest			928									
	Selected Pure Premium			928									

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Release
Incurred Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
RY	POLICIES IN FORCE	PROJECTED PURE PREM	TRENDED PURE PREM	DETRENDED PURE PREM	EXPECTED LOSSES	PERCENT IBNR	EXPECTED IBNR	INCURRED LOSSES	INDICATED ULTIMATE	PAID LOSSES	UNPAID LOSS	CASE RESERVE	ULTIMATE PURE PREM
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	2,664	784	1,518	479	1,277,292	0.6%	7,923	2,021,507	2,029,429	1,968,385	61,045	53,122	762
2009	2,662	331	616	500	1,330,150	0.6%	8,296	879,624	887,920	783,624	104,296	96,000	334
2010	2,622	261	465	521	1,365,407	2.5%	33,931	674,592	708,522	462,377	246,145	212,214	270
2011	2,623	885	1,514	543	1,423,523	4.7%	66,324	2,191,528	2,257,851	2,021,632	236,219	169,896	861
2012	2,617	404	662	566	1,480,153	4.7%	69,739	968,116	1,037,855	910,479	127,376	57,637	397
2013	2,603	123	193	589	1,534,312	7.7%	118,752	301,974	420,726	244,337	176,389	57,637	162
2014	2,573	751	1,135	614	1,580,579	8.9%	140,422	1,805,599	1,946,021	1,440,421	505,600	365,178	756
2015	2,530	1,311	1,901	640	1,619,696	10.8%	174,754	2,793,537	2,968,291	2,533,333	434,958	260,204	1,173
2016	2,509	727	1,012	667	1,673,981	12.3%	205,437	1,690,349	1,895,786	1,200,561	695,225	489,788	756
2017	2,489	692	924	695	1,730,658	13.8%	238,582	1,377,685	1,616,267	1,228,971	387,297	148,715	649
2018	2,487	472	605	725	1,802,183	16.8%	303,076	986,206	1,289,282	734,336	554,947	251,870	518
2019	2,413	255	314	755	1,822,289	21.6%	393,643	519,267	912,910	324,921	587,989	194,346	378
2020	2,408	661	780	787	1,895,191	24.5%	463,908	1,316,495	1,780,403	698,864	1,081,539	617,631	739
2021	2,405	785	889	820	1,972,643	26.7%	527,425	1,474,025	2,001,449	719,056	1,282,393	754,968	832
2022	2,371	1,471	1,597	855	2,026,757	31.8%	643,749	2,162,695	2,806,444	1,161,602	1,644,842	1,001,093	1,184
2023	2,347	700	730	891	2,090,835	40.1%	837,523	1,022,401	1,859,924	256,734	1,603,190	765,667	792
2024	2,319	704	704	928	2,153,001	53.9%	1,159,551	753,332	1,912,883	145,623	1,767,260	607,709	825
TOTAL	42,642				28,778,650		5,393,034	22,938,932	28,331,966	16,835,256	11,496,710	6,103,676	664
	Pure Premium Selection				Trend =	1.042							
	3-Year Average x Latest			1,072									
	5-Year Average x Latest			862									
	All Year Average x Latest			928									
	Selected Pure Premium			928									

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Closure
Summary of Paid Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
RY	PAID LDM ULTIMATE	PAID LOSS	INCURRED LOSS	CASE RESERVE	IBNR RESERVE	UNPAID LOSS
1994	1,128,314	848,088	1,128,314	280,226	-	280,226
1995	830,629	830,629	830,629	-	-	-
1996	3,877,028	3,877,028	3,877,028	-	-	-
1997	4,772,650	4,531,150	4,643,906	112,756	128,745	241,500
1998	5,964,475	5,269,003	5,964,475	695,472	-	695,472
1999	9,958,689	9,423,683	9,740,883	317,202	217,806	535,008
2000	5,754,527	5,442,164	5,483,807	41,643	270,720	312,363
2001	2,121,382	2,190,054	2,227,492	37,438	18,880	333,327
2002	4,528,631	4,257,908	4,418,120	160,211	110,512	270,723
2003	4,138,003	3,457,659	4,138,003	678,344	-	678,344
2004	2,449,524	2,279,382	2,419,522	139,941	30,202	170,143
2005	2,914,840	2,682,736	2,770,415	87,679	144,425	232,104
2006	1,780,461	1,383,313	1,780,461	397,148	-	397,148
2007	4,269,278	3,802,372	4,012,126	256,753	257,153	466,907
2008	3,072,314	2,687,058	3,001,472	314,414	70,842	385,256
2009	2,258,063	1,945,335	2,027,535	82,000	230,529	312,529
2010	2,115,201	1,786,879	2,082,222	295,443	32,878	328,322
2011	1,856,540	1,539,584	1,575,584	36,000	280,956	316,956
2012	2,896,229	2,346,795	2,417,514	70,719	478,715	549,434
2013	4,020,333	3,212,616	3,866,080	653,464	154,452	807,917
2014	3,125,311	2,435,894	3,025,756	589,862	99,555	689,417
2015	2,631,957	1,988,326	2,486,479	498,153	145,478	643,631
2016	2,423,332	1,765,433	2,058,489	293,056	364,844	657,900
2017	2,802,664	1,961,557	2,388,569	427,012	414,096	841,108
2018	3,288,167	2,197,242	2,596,652	399,410	691,514	1,090,924
2019	3,295,490	2,062,521	2,634,659	568,338	660,611	1,228,969
2020	854,665	543,858	780,753	236,895	173,932	410,807
2021	1,903,987	829,368	1,903,987	1,074,619	-	1,074,619
2022	3,231,962	1,352,858	1,933,699	580,841	1,208,263	1,879,105
2023	2,852,853	836,035	1,806,857	970,822	1,045,996	2,016,818
2024	50,005	-	50,005	50,005	-	50,005
TOTAL	97,465,707	79,770,727	90,069,593	10,298,865	7,386,114	17,694,980

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance USF - Closure
Selection of Loss Development Factors

BY	Development Period in Months																																	
	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - 96	96 - 108	108 - 120	120 - 132	132 - 144	144 - 156	156 - 168	168 - 180	180 - 192	192 - 204	204 - 216	216 - 228	228 - 240	240 - 252	252 - 264	264 - 276	276 - 288	288 - 300	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372				
1994	1.590	1.284	2.725	1.390	1.000	1.129	1.360	1.656	1.129	1.207	1.047	1.079	1.019	1.004	1.102	1.083	1.001	1.059	1.031	1.000	1.046	1.003	1.000	1.009	1.000	1.047	1.000	1.016	1.000	1.091				
1995	1.931	1.289	1.132	1.133	1.023	1.266	1.393	1.005	1.040	1.013	1.041	1.008	1.000	1.010	1.000	1.028	1.000	1.000	1.036	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1996	1.951	1.854	1.381	1.832	1.102	1.078	1.026	1.059	1.034	1.034	1.022	1.015	1.052	1.015	1.018	1.008	1.011	1.004	1.023	1.022	1.009	1.008	1.007	1.001	1.000	1.000	1.000	1.000	1.000	1.000				
1997	5.819	1.948	1.634	1.305	1.186	1.276	1.075	1.043	1.055	1.059	1.023	1.040	1.051	1.045	1.016	1.014	1.016	1.051	1.021	1.014	1.007	1.007	1.007	1.000	1.007	1.006	1.006							
1998	5.396	1.373	1.182	1.137	1.047	1.093	1.057	1.077	1.068	1.091	1.022	1.062	1.028	1.009	1.026	1.015	1.047	1.054	1.037	1.025	1.014	1.015	1.002	1.010	1.002	1.004								
1999	3.145	1.413	1.151	1.230	1.119	1.083	1.082	1.054	1.045	1.051	1.035	1.034	1.044	1.017	1.015	1.021	1.022	1.010	1.010	1.005	1.008	1.003	1.004	1.001	1.000									
2000	2.794	1.171	1.209	1.059	1.096	1.051	1.035	1.083	1.030	1.048	1.022	1.069	1.019	1.023	1.018	1.027	1.028	1.013	1.007	1.012	1.001	1.000	1.000	1.000										
2001	1.379	1.610	1.131	1.121	1.052	1.061	1.021	1.044	1.011	1.037	1.057	1.024	1.013	1.024	1.018	1.023	1.030	1.022	1.006	1.000	1.000	1.000	1.000	1.001										
2002	2.952	1.111	1.160	1.055	1.048	1.343	1.023	1.026	1.012	1.018	1.028	1.020	1.012	1.019	1.032	1.000	1.004	1.002	1.002	1.000	1.001	1.002												
2003	2.242	1.245	1.134	1.118	1.091	1.096	1.060	1.025	1.029	1.042	1.015	1.027	1.006	1.016	1.044	1.039	1.017	1.023	1.011	1.017	1.017													
2004	6.475	1.290	1.064	1.079	1.064	1.094	1.117	1.039	1.023	1.013	1.082	1.016	1.028	1.024	1.007	1.008	1.013	1.004	1.000	1.047	1.005													
2005	2.800	1.295	1.163	1.080	1.079	1.006	1.039	1.058	1.049	1.027	1.016	1.110	1.038	1.035	1.034	1.013	1.044	1.012	1.014															
2006	3.574	1.540	1.136	1.366	1.032	1.073	1.086	1.027	1.001	1.027	1.000	1.003	1.037	1.040	1.017	1.000	1.008	1.006																
2007	4.897	1.574	1.091	1.110	1.096	1.059	1.011	1.071	1.089	1.037	1.041	1.041	1.022	1.009	1.009	1.010	1.008																	
2008	3.181	1.294	1.214	1.216	1.094	1.068	1.037	1.047	1.057	1.049	1.012	1.030	1.010	1.016	1.014	1.014																		
2009	4.550	1.176	1.057	1.032	1.024	1.028	1.025	1.018	1.008	1.059	1.002	1.009	1.000	1.000	1.000																			
2010	9.898	1.200	1.150	1.142	1.092	1.042	1.038	1.055	1.049	1.051	1.032	1.009	1.080	1.017																				
2011	2.092	1.360	1.105	1.049	1.034	1.106	1.077	1.034	1.022	1.002	1.005	1.005		1.000																				
2012	2.259	1.678	1.189	1.204	1.119	1.072	1.056	1.017	1.030	1.022	1.022	1.012																						
2013	2.154	1.421	1.329	1.240	1.184	1.078	1.052	1.045	1.023	1.019	1.034																							
2014	7.132	1.486	1.179	1.112	1.200	1.049	1.007	1.023	1.030	1.018																								
2015	10.893	2.283	1.132	1.105	1.104	1.028	1.011	1.000	1.026																									
2016	3.832	1.726	1.334	1.117	1.061	1.101	1.016	1.015																										
2017	3.572	1.541	1.247	1.138	1.075	1.052																												
2018	4.370	1.506	1.246	1.088	1.079	1.078																												
2019	7.572	1.468	1.191	1.192	1.178																													
2020	3.890	1.683	1.218																															
2021	1.802	2.322	1.529																															
2022	4.759	1.298																																
2023	4.502																																	
VOL WTD 3	3.952	1.516	1.280	1.133	1.110	1.076	1.020	1.017	1.026	1.020	1.024	1.009	1.026	1.012	1.008	1.010	1.020	1.006	1.022	1.007	1.006	1.001	1.002	1.003	1.002	1.003	1.003	1.002	1.000	1.091				
VOL WTD 5	4.516	1.501	1.262	1.131	1.101	1.060	1.025	1.024	1.026	1.021	1.014	1.021	1.014	1.015	1.011	1.016	1.009	1.014	1.008	1.006	1.004	1.003	1.002	1.002	1.005	1.003	1.002	1.000	1.091					
VOL WTD ALL	3.350	1.428	1.195	1.162	1.088	1.093	1.047	1.046	1.038	1.043	1.025	1.035	1.028	1.019	1.020	1.017	1.021	1.019	1.015	1.011	1.008	1.005	1.003	1.002	1.002	1.005	1.003	1.002	1.000	1.091				
ARITH 3	3.688	1.767	1.313	1.132	1.111	1.077	1.020	1.016	1.026	1.020	1.020	1.008	1.027	1.011	1.008	1.008	1.020	1.006	1.024	1.007	1.006	1.001	1.002	1.004	1.003	1.003	1.002	1.005	1.000	1.091				
ARITH 5	4.505	1.655	1.286	1.130	1.100	1.061	1.024	1.022	1.026	1.022	1.019	1.013	1.023	1.016	1.010	1.016	1.009	1.016	1.007	1.005	1.004	1.003	1.002	1.002	1.011	1.001	1.005	1.000	1.091					
ARITH ALL	4.113	1.505	1.266	1.151	1.089	1.097	1.069	1.066	1.040	1.047	1.025	1.033	1.025	1.018	1.023	1.019	1.029	1.020	1.017	1.012	1.010	1.004	1.003	1.003	1.002	1.011	1.001	1.005	1.000	1.091				
5 YR HI LO	4.384	1.552	1.237	1.124	1.086	1.060	1.020	1.021	1.026	1.020	1.020	1.010	1.014	1.013	1.012	1.011	1.007	1.010	1.006	1.004	1.001	1.002	1.001	1.001	1.003	1.000	1.000	NA	NA					
7 YR HI LO	4.218	1.585	1.247	1.117	1.124	1.066	1.033	1.029	1.026	1.032	1.021	1.013	1.022	1.017	1.017	1.010	1.013	1.011	1.010	1.008	1.006	1.004	1.003	1.002	1.001	1.003	1.000	1.000	NA	NA				
ALL YR HI LO	3.969	1.487	1.218	1.172	1.088	1.091	1.057	1.041	1.037	1.041	1.024	1.030	1.033	1.017	1.019	1.015	1.018	1.018	1.015	1.011	1.007	1.003	1.003	1.002	1.001	1.003	1.000	1.000	NA	NA				
SELECTED	4.218	1.428	1.218	1.117	1.101	1.066	1.047	1.041	1.037	1.032	1.025	1.014	1.023	1.019	1.020	1.015	1.018	1.018	1.015	1.011	1.007	1.003	1.003	1.002	1.001	1.003	1.000	1.000	1.000	1.000	1.053			

[illegible]

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance LST - Closure
Summary of Incurred Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
BY	INC LDM	PAID	INCURRED	CASE	IBNR	UNPAID
	ULTIMATE	LOSS	LOSS	RESERVE	RESERVE	LOSS
1994	1,128,314	848,088	1,128,314	280,226	-	280,226
1995	830,629	830,629	830,629	-	-	-
1996	3,877,028	3,877,028	3,877,028	-	-	-
1997	4,643,906	4,531,130	4,643,906	112,796	-	112,796
1998	5,964,475	5,289,003	5,964,475	695,472	-	695,472
1999	9,740,883	9,423,681	9,740,883	317,202	-	317,202
2000	5,483,807	5,442,164	5,483,807	41,643	-	41,643
2001	2,227,492	2,190,054	2,227,492	37,438	-	37,438
2002	4,434,626	4,257,908	4,418,120	160,211	16,506	176,717
2003	4,151,887	3,457,659	4,136,003	678,344	15,884	694,227
2004	2,632,148	2,279,382	2,419,322	139,941	12,806	152,767
2005	2,787,260	2,682,736	2,770,415	87,679	16,844	104,523
2006	1,800,439	1,383,313	1,780,461	397,148	19,978	417,126
2007	4,089,201	3,862,372	4,012,126	209,753	77,076	286,829
2008	3,088,901	2,687,058	3,001,472	314,414	87,429	401,843
2009	2,091,761	1,945,535	2,027,535	82,000	64,228	146,228
2010	2,180,416	1,786,879	2,082,322	295,443	98,053	393,536
2011	1,668,228	1,539,584	1,575,584	36,000	92,644	128,644
2012	2,615,206	2,346,795	2,417,514	70,719	197,692	268,411
2013	4,355,150	3,212,616	3,866,080	652,464	280,070	1,042,534
2014	3,380,504	2,435,894	3,025,756	589,862	354,747	944,610
2015	2,819,328	1,988,326	2,486,479	498,153	332,849	831,002
2016	2,385,986	1,765,433	2,056,489	293,056	337,498	630,554
2017	2,801,978	1,961,557	2,388,569	427,012	413,410	840,422
2018	3,106,069	2,197,242	2,596,652	399,410	509,417	908,827
2019	3,219,756	2,066,521	2,634,859	568,338	584,698	1,153,035
2020	968,906	543,858	780,753	236,895	188,153	425,048
2021	2,490,248	829,368	1,903,987	1,074,619	586,261	1,660,880
2022	2,773,564	1,352,858	1,933,999	580,841	839,865	1,420,707
2023	3,112,725	836,035	1,806,857	970,822	1,305,868	2,276,690
2024	145,446	-	50,005	50,005	95,441	145,446
TOTAL	96,696,269	75,770,727	90,069,593	10,298,865	6,626,676	16,925,542

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Closure
Selection of Loss Development Factors

RY	Development Period in Months																															
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372		
1994	1.748	1.035	1.099	1.064	1.087	1.000	1.186	1.063	1.046	1.136	1.039	0.962	0.938	1.054	1.022	1.352	0.998	1.000	1.000	1.000	0.994	1.000	1.000	1.000	1.000	1.288	1.000	1.000	1.000	1.000	1.000	
1995	1.568	0.944	0.990	1.003	1.280	1.130	1.006	1.003	1.165	0.989	0.963	1.000	1.033	0.951	1.001	1.001	1.000	1.025	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1996	1.115	1.062	1.088	1.277	0.983	1.123	1.014	0.948	1.021	1.057	0.930	1.031	1.011	1.010	0.996	1.014	1.035	1.000	1.000	1.000	0.999	1.003	0.995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1997	1.376	1.029	1.122	1.191	0.932	1.009	1.006	0.951	1.008	0.949	1.007	1.030	1.036	1.012	1.022	1.005	1.040	1.023	1.004	0.982	1.007	1.002	1.017	1.000	0.985	1.000	1.005					
1998	0.968	1.227	0.936	1.020	1.053	1.001	0.983	1.009	1.012	1.045	1.014	1.016	1.012	1.008	0.997	0.991	1.066	1.050	1.011	1.007	0.999	1.001	1.115	0.998	1.000	1.000	1.000					
1999	1.380	1.175	1.037	1.067	1.059	1.039	1.058	0.998	1.115	1.039	1.005	1.043	0.997	1.000	1.009	1.002	0.974	0.971	0.999	1.003	1.010	1.000	0.999	1.008	1.000							
2000	1.307	1.026	1.352	1.020	0.960	1.014	0.989	0.994	1.014	1.019	1.004	1.023	1.021	1.000	1.039	1.011	1.018	1.002	0.995	0.990	0.996	1.000	1.000	0.983								
2001	0.774	1.045	1.094	0.990	1.013	1.048	0.988	1.012	1.007	1.037	1.006	1.014	0.990	1.000	1.011	0.996	0.990	1.000	1.000	1.000	1.000	1.000	1.002									
2002	1.086	1.231	1.061	0.999	1.008	1.176	0.980	1.001	1.007	1.022	1.019	0.998	0.985	1.015	1.013	0.987	1.000	1.000	1.002	1.005	1.000	1.000	1.000									
2003	0.866	1.069	1.034	1.077	0.986	0.979	0.990	0.992	1.055	0.996	1.003	1.003	1.011	1.035	1.060	1.024	0.994	1.034	1.000	1.172	0.993											
2004	0.726	1.002	0.957	1.133	0.996	0.915	1.012	1.022	1.037	1.008	1.020	1.029	1.000	0.997	0.997	0.984	1.034	1.000	1.035	1.000												
2005	0.999	1.065	0.965	0.936	1.003	0.977	1.047	1.044	0.963	0.984	1.044	1.127	0.982	1.023	1.010	0.999	1.004	1.000	1.002													
2006	0.697	0.925	1.016	1.121	0.979	0.945	0.958	1.009	0.962	0.985	1.000	1.105	1.020	1.126	0.988	1.000	1.000	1.000														
2007	1.129	0.948	0.943	0.962	1.063	1.019	1.010	1.028	1.090	1.012	1.005	1.033	1.014	1.000	1.022	1.000	0.998															
2008	0.720	0.880	1.052	1.089	1.010	1.024	0.994	1.105	1.066	1.000	0.983	0.986	1.012	1.011	1.010	1.000																
2009	0.825	0.842	0.957	1.023	0.974	1.022	0.998	1.008	1.073	1.018	1.000	0.965	1.020	1.000	1.000	1.000																
2010	0.696	0.928	0.970	1.076	1.062	1.073	1.007	0.983	0.992	0.985	0.991	1.000	1.071	1.000																		
2011	0.812	1.011	1.000	0.966	1.093	1.020	1.004	0.991	0.999	0.998	1.000	0.994	1.000																			
2012	0.858	0.963	1.329	1.028	0.996	1.035	0.984	0.844	0.992	1.000	1.009	1.004																				
2013	0.764	1.126	1.009	0.996	1.083	1.028	1.024	1.029	1.003	1.059	1.003	1.057																				
2014	0.746	1.098	0.950	1.204	0.985	0.982	1.044	1.028	1.003	1.003																						
2015	2.616	1.627	1.100	1.101	0.994	0.987	1.163	1.004	1.000																							
2016	2.752	1.370	1.064	0.912	0.987	1.098	0.991	0.999																								
2017	2.579	1.003	1.096	1.040	1.033	1.019																										
2018	1.754	1.190	1.050	1.029	1.005	1.039																										
2019	3.047	1.145	1.173	1.001	0.962																											
2020	0.901	0.916	0.998																													
2021	1.219	1.545	1.331																													
2022	1.749	1.297																														
2023	2.030																															
VOL WTD 3	1.688	1.271	1.193	1.012	0.998	1.048	1.042	1.012	1.002	1.024	1.030	1.000	1.032	1.004	1.013	1.000	1.000	1.000	1.010	1.061	0.997	1.000	1.000	0.999	0.997	1.000	1.002	1.000	1.000	1.000		
VOL WTD 5	1.730	1.214	1.134	0.998	0.995	1.021	1.038	0.981	1.000	1.015	1.034	0.992	1.022	1.019	1.009	0.997	1.004	1.008	1.005	1.032	1.002	1.000	1.025	0.998	0.997	1.000	1.002	1.000	1.000	1.000		
VOL WTD ALL	1.070	1.086	1.063	1.051	1.011	1.027	1.011	1.002	1.028	1.015	1.016	1.017	1.010	1.010	1.015	1.006	1.008	1.005	1.005	1.013	1.001	1.000	1.001	0.998	1.007	1.000	1.002	1.000	1.000	1.000		
ARITH 3	1.666	1.256	1.168	1.010	1.000	1.052	1.044	1.010	1.002	1.021	1.022	0.999	1.030	1.004	1.011	1.000	1.001	1.000	1.000	1.012	1.059	0.998	1.000	1.000	0.996	0.995	1.000	1.002	1.000	1.000		
ARITH 5	1.789	1.221	1.130	0.996	0.996	1.025	1.040	0.981	0.999	1.009	1.032	0.992	1.023	1.027	1.006	0.997	1.006	1.007	1.006	1.033	1.000	1.000	1.027	0.997	0.997	1.000	1.001	1.000	1.000	1.000		
ARITH ALL	1.328	1.084	1.064	1.062	1.026	1.027	1.016	1.007	1.025	1.014	1.016	1.014	1.010	1.015	1.014	1.025	1.011	1.007	1.006	1.015	1.000	1.000	1.017	0.998	1.046	1.000	1.001	1.000	1.000	1.000		
5 YR HI LO	1.666	1.211	1.106	1.010	0.995	1.015	1.020	1.010	1.000	1.000	1.022	0.997	1.015	1.004	1.006	1.000	1.001	1.000	1.001	1.002	0.999	1.000	1.006	0.998	1.000	1.000	1.000	1.000	1.000	NA	NA	
7 YR HI LO	1.866	1.201	1.097	1.034	1.001	1.022	1.010	1.001	0.999	1.004	1.014	1.005	1.013	1.007	1.008	0.997	1.003	1.000	0.999	1.003	1.000	1.000	1.004	0.999	1.000	1.000	1.000	1.000	NA	NA	NA	
ALL YR HI LO	1.399	1.084	1.058	1.054	1.016	1.026	1.010	1.010	1.022	1.011	1.015	1.013	1.010	1.011	1.012	1.022	1.010	1.006	1.005	1.001	0.999	1.000	1.004	0.999	1.000	1.000	1.000	1.000	1.000	NA	NA	
SELECTED	1.688	1.201	1.097	1.054	1.016	1.022	1.020	1.012	1.022	1.015	1.015	1.017	1.022	1.011	1.015	1.002	1.010	1.008	1.005	1.001	1.001	1.001	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Closure
Incurred Losses

RY	Development in Months																																	
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372			
1994	187,103	327,100	338,664	372,338	396,280	430,925	430,925	512,003	544,249	569,328	646,825	671,833	646,361	606,161	639,180	653,025	882,676	881,282	881,282	881,282	881,282	875,960	875,960	875,960	875,960	1,128,314	1,128,314	1,128,314	1,128,314	1,128,314	1,128,314			
1995	229,050	359,238	339,169	325,712	470,908	649,998	734,664	739,266	741,292	883,373	854,043	822,060	822,060	848,516	809,668	809,668	809,668	829,668	829,668	829,668	829,668	830,629	830,629	830,629	830,629	830,629	830,629	830,629	830,629	830,629	830,629			
1996	2,074,608	2,312,993	2,456,425	2,673,073	3,413,485	3,354,566	3,354,566	3,767,622	3,665,813	3,718,947	3,324,021	3,596,366	3,799,750	3,534,045	3,643,349	3,685,176	3,687,940	3,723,882	3,707,363	3,757,936	3,887,596	3,887,596	3,887,596	3,887,596	3,896,281	3,877,028	3,877,028	3,877,028	3,877,028	3,877,028				
1997	2,396,340	3,296,691	3,392,934	3,805,286	4,531,604	4,223,037	4,260,238	4,287,861	4,079,282	4,113,314	3,902,281	3,929,176	4,047,234	4,192,485	4,241,564	4,333,493	4,337,186	4,532,100	4,636,226	4,652,717	4,571,271	4,602,339	4,610,834	4,690,855	4,690,855	4,620,899	4,620,899	4,620,899	4,620,899	4,620,899				
1998	1,875,965	3,559,113	4,365,785	4,088,438	4,088,851	4,384,774	4,307,747	4,235,040	4,274,042	4,324,193	4,515,773	4,581,805	4,653,835	4,710,482	4,749,789	4,737,115	4,702,682	5,014,409	5,365,050	5,323,794	5,383,065	5,385,706	5,388,491	5,395,720	5,964,475	5,964,475	5,964,475	5,964,475	5,964,475	5,964,475				
1999	4,037,062	5,571,871	6,545,350	6,787,456	7,241,227	7,671,307	7,817,662	8,271,035	8,234,562	9,206,158	9,560,694	9,605,104	10,021,467	9,989,020	9,992,011	10,080,720	10,105,116	9,843,136	9,558,324	9,546,992	9,578,572	9,674,951	9,664,343	9,740,883	9,740,883	9,740,883	9,740,883	9,740,883	9,740,883	9,740,883				
2000	2,762,343	3,611,594	3,705,600	5,011,259	5,112,429	4,908,784	4,977,899	4,921,943	4,884,275	4,961,257	5,054,309	5,076,112	5,193,017	5,301,446	5,303,354	5,511,724	5,574,262	5,673,733	5,687,601	5,658,501	5,602,232	5,578,254	5,578,254	5,578,254	5,578,254	5,578,254	5,578,254	5,578,254	5,578,254	5,578,254				
2001	2,251,558	1,743,446	1,822,201	1,993,523	1,894,340	1,918,963	2,011,132	1,987,488	2,002,066	2,067,276	2,144,617	2,157,214	2,187,052	2,164,958	2,164,958	2,231,893	2,231,893	2,255,449	2,246,989	2,221,792	2,223,792	2,223,792	2,223,792	2,223,792	2,223,792	2,223,792	2,223,792	2,223,792	2,223,792	2,223,792				
2002	2,542,017	2,760,461	3,397,838	3,605,778	3,602,481	3,629,619	4,200,535	4,184,966	4,189,633	4,220,128	4,314,840	4,395,247	4,388,354	4,321,344	4,389,340	4,444,852	4,388,828	4,388,828	4,388,828	4,395,828	4,418,120	4,418,120	4,418,120	4,418,120	4,418,120	4,418,120	4,418,120	4,418,120	4,418,120	4,418,120				
2003	2,947,566	2,552,226	2,729,345	2,821,402	3,038,665	2,996,630	2,935,032	2,905,668	2,883,632	3,043,090	3,031,155	3,041,419	3,049,245	3,081,544	3,188,294	3,379,908	3,460,316	3,438,965	3,555,208	3,555,208	4,166,373	4,136,003												
2004	2,784,076	2,021,523	2,025,941	1,938,585	2,234,615	2,224,836	2,035,592	2,059,706	2,105,619	2,182,954	2,200,007	2,244,932	2,310,707	2,310,706	2,304,759	2,298,878	2,262,131	2,338,322	2,338,322	2,419,322	2,419,322													
2005	2,418,554	2,616,450	2,572,849	2,481,026	2,274,631	2,281,970	2,229,537	2,333,344	2,437,134	2,347,584	2,309,023	2,411,172	2,717,437	2,667,437	2,728,436	2,755,939	2,794,029	2,765,098	2,765,098	2,770,415														
2006	2,279,915	1,590,227	1,471,489	1,494,938	1,675,834	1,640,664	1,549,814	1,484,507	1,497,613	1,440,812	1,418,755	1,418,755	1,568,383	1,600,382	1,802,384	1,780,461	1,780,461	1,780,461	1,780,461															
2007	3,104,642	3,506,428	3,324,034	3,131,446	3,015,593	3,206,641	3,206,644	3,297,905	3,388,641	3,693,115	3,738,832	3,754,548	3,878,579	3,932,825	3,932,825	4,005,125	4,005,125	4,005,125	4,005,125															
2008	3,376,033	2,452,025	2,139,716	2,260,962	2,450,839	2,475,575	2,534,647	2,518,897	2,794,301	2,969,033	2,968,102	2,916,589	2,905,922	2,943,629	2,972,885	3,001,472	3,001,472																	
2009	2,770,198	2,286,030	1,923,883	1,840,582	1,883,630	1,833,921	1,873,872	1,869,496	1,884,955	2,023,386	2,059,214	2,059,214	1,987,951	2,027,535	2,027,535	2,027,535																		
2010	2,399,535	1,670,654	1,551,137	1,504,347	1,618,767	1,718,575	1,843,937	1,857,606	1,855,960	1,811,019	1,783,637	1,945,713	1,945,107	2,082,322	2,082,322																			
2011	1,750,254	1,440,222	1,440,536	1,494,741	1,433,817	1,567,380	1,598,788	1,605,837	1,590,668	1,588,365	1,584,634	1,584,634	1,575,584	1,575,584																				
2012	2,490,976	2,137,662	2,058,476	2,735,440	2,811,353	2,799,426	2,873,872	2,869,496	2,854,955	2,802,386	2,788,388	2,498,911	2,417,514																					
2013	3,392,371	2,592,125	2,918,959	2,945,843	2,934,795	3,178,441	3,266,982	3,343,869	3,441,847	3,452,011	3,656,207	3,866,080																						
2014	3,096,607	2,310,421	2,536,205	2,408,839	2,899,099	2,854,689	2,802,333	2,926,238	3,008,322	3,016,488	3,015,756																							
2015	421,275	1,102,257	1,793,275	1,972,587	2,171,046	2,157,798	2,125,592	2,477,479	2,486,479	2,486,479																								
2016	524,435	1,443,017	1,977,045	2,103,420	1,917,742	1,892,215	2,077,388	2,059,543																										
2017	786,588	2,028,990	2,036,019	2,230,762	2,320,748	2,396,824	2,441,873	2,388,969																										
2018	1,101,481	1,931,507	2,298,304	2,413,915	2,484,981	2,498,400	2,596,652																											
2019	668,550	2,037,158	2,332,992	2,717,603	2,740,228	2,634,859																												
2020	938,865	846,081	783,580	782,178																														
2021	759,215	925,850	1,430,238	1,903,987																														
2022	852,511	1,491,284	1,933,699																															
2023	890,064	1,806,857																																
2024	50,005																																	

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Closure
Determination of Pure Premium

(1) RY	(2) PAID LDM <u>ULTIMATE</u>	(3) INC LDM <u>ULTIMATE</u>	(4) SELECTED <u>ULTIMATE</u>	(5) POLICIES <u>IN FORCE</u>	(6) PURE <u>PREMIUM</u>
1994					
1995					
1996					
1997					
1998					
1999					
2000					
2001					
2002					
2003					
2004					
2005					
2006					
2007					
2008	3,072,314	3,088,901	3,080,608	2,664	1,156
2009	2,258,063	2,091,762	2,174,913	2,662	817
2010	2,115,201	2,180,416	2,147,808	2,622	819
2011	1,856,540	1,668,228	1,762,384	2,623	672
2012	2,896,229	2,615,206	2,755,718	2,617	1,053
2013	4,020,533	4,255,150	4,137,842	2,603	1,590
2014	3,125,311	3,380,504	3,252,907	2,573	1,264
2015	2,631,957	2,819,328	2,725,643	2,530	1,077
2016	2,423,332	2,385,986	2,404,659	2,509	958
2017	2,802,664	2,801,978	2,802,321	2,489	1,126
2018	3,288,167	3,106,069	3,197,118	2,487	1,286
2019	3,295,490	3,219,756	3,257,623	2,413	1,350
2020	954,665	968,906	961,785	2,408	399
2021	1,903,987	2,490,248	2,197,118	2,405	914
2022	3,231,962	2,773,564	3,002,763	2,371	1,266
2023	2,852,853	3,112,725	2,982,789	2,347	1,271
2024	50,005	145,446	97,726	2,319	42
TOTAL	42,779,274	43,104,175	42,941,725	42,642	1,007

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Closure
Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
RY	POLICIES IN FORCE	PROJECTED PURE PREM	TRENDED PURE PREM	DETRENDED PURE PREM	EXPECTED LOSSES	PERCENT UNPAID	EXPECTED UNPAID	PAID LOSSES	INDICATED ULTIMATE	INCURRED LOSSES	IBNR RESERVE	CASE RESERVE	ULTIMATE PURE PREM
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	2,664	1,156	837	1,178	3,136,922	12.5%	393,358	2,687,058	3,080,416	3,001,472	78,944	314,414	1,156
2009	2,662	817	603	1,154	3,071,876	13.8%	425,165	1,945,535	2,370,700	2,027,535	343,165	82,000	891
2010	2,622	819	617	1,131	2,965,203	15.5%	460,259	1,786,879	2,247,138	2,082,322	164,816	295,443	857
2011	2,623	672	517	1,108	2,907,007	17.1%	496,296	1,539,584	2,035,880	1,575,584	460,296	36,000	776
2012	2,617	1,053	826	1,086	2,842,350	19.0%	539,213	2,346,795	2,886,008	2,417,514	468,494	70,719	1,103
2013	2,603	1,590	1,273	1,064	2,770,602	20.1%	556,746	3,212,616	3,769,362	3,866,080	(96,718)	653,464	1,448
2014	2,573	1,264	1,033	1,043	2,683,896	22.1%	592,045	2,435,894	3,027,939	3,025,756	2,182	589,862	1,177
2015	2,530	1,077	898	1,022	2,586,262	24.5%	632,457	1,988,326	2,620,783	2,486,479	134,304	498,153	1,036
2016	2,509	958	815	1,002	2,513,499	27.1%	682,379	1,765,433	2,447,811	2,058,489	389,323	293,056	976
2017	2,489	1,126	977	982	2,443,594	30.0%	733,347	1,961,557	2,694,904	2,388,569	306,335	427,012	1,083
2018	2,487	1,286	1,139	962	2,392,798	33.2%	793,865	2,197,242	2,991,108	2,596,652	394,455	399,410	1,203
2019	2,413	1,350	1,220	943	2,275,169	37.3%	848,467	2,066,521	2,914,987	2,634,859	280,129	568,338	1,208
2020	2,408	399	368	924	2,225,046	43.0%	957,471	543,858	1,501,329	780,753	720,576	236,895	623
2021	2,405	914	860	906	2,177,828	49.0%	1,067,589	829,368	1,896,957	1,903,987	(7,030)	1,074,619	789
2022	2,371	1,266	1,216	887	2,104,099	58.1%	1,223,350	1,352,858	2,576,208	1,933,699	642,509	580,841	1,087
2023	2,347	1,271	1,245	870	2,041,144	70.7%	1,442,982	836,035	2,279,018	1,806,857	472,160	970,822	971
2024	2,319	42	42	852	1,976,457	93.1%	1,839,154	-	1,839,154	50,005	1,789,149	50,005	793
TOTAL	42,642				43,113,753		13,684,142	29,495,559	43,179,700	36,636,613	6,543,087	7,141,054	1,013
	<u>Pure Premium Selection</u>				Trend =	0.980							
	3-Year Average		835										
	5-Year Average		746										
	All Year Average		852										
	Selected Pure Premium		852										

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Closure
Incurred Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
RY	POLICIES IN FORCE	PROJECTED PURE PREM	TRENDED PURE PREM	DETRENDED PURE PREM	EXPECTED LOSSES	PERCENT IBNR	EXPECTED IBNR	INCURRED LOSSES	INDICATED ULTIMATE	PAID LOSSES	UNPAID LOSS	CASE RESERVE	ULTIMATE PURE PREM
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	2,664	1,156	837	1,178	3,136,922	2.8%	88,788	3,001,472	3,090,260	2,687,058	403,202	314,414	1,160
2009	2,662	817	603	1,154	3,071,876	3.1%	94,322	2,027,535	2,121,857	1,945,535	176,322	82,000	797
2010	2,622	819	617	1,131	2,965,203	4.5%	133,400	2,082,322	2,215,722	1,786,879	428,843	295,443	845
2011	2,623	672	517	1,108	2,907,007	5.6%	161,438	1,575,584	1,737,022	1,539,584	197,438	36,000	662
2012	2,617	1,053	826	1,086	2,842,350	7.6%	214,862	2,417,514	2,632,377	2,346,795	285,581	70,719	1,006
2013	2,603	1,590	1,273	1,064	2,770,602	9.1%	253,330	3,866,080	4,119,411	3,212,616	906,795	653,464	1,583
2014	2,573	1,264	1,033	1,043	2,683,896	10.5%	281,646	3,025,756	3,307,402	2,435,894	871,508	589,862	1,285
2015	2,530	1,077	898	1,022	2,586,262	11.8%	305,333	2,486,479	2,791,812	1,988,326	803,486	498,153	1,103
2016	2,509	958	815	1,002	2,513,499	13.7%	345,000	2,058,489	2,403,489	1,765,433	638,056	293,056	958
2017	2,489	1,126	977	982	2,443,594	14.8%	360,533	2,388,569	2,749,102	1,961,557	787,545	427,012	1,105
2018	2,487	1,286	1,139	962	2,392,798	16.4%	392,436	2,596,652	2,989,088	2,197,242	791,846	399,410	1,202
2019	2,413	1,350	1,220	943	2,275,169	18.2%	413,305	2,634,859	3,048,163	2,066,521	981,643	568,338	1,263
2020	2,408	399	368	924	2,225,046	19.4%	432,084	780,753	1,212,837	543,858	668,979	236,895	504
2021	2,405	914	860	906	2,177,828	23.5%	512,710	1,903,987	2,416,697	829,368	1,587,329	1,074,619	1,005
2022	2,371	1,266	1,216	887	2,104,099	30.3%	637,144	1,933,699	2,570,843	1,352,858	1,217,985	580,841	1,084
2023	2,347	1,271	1,245	870	2,041,144	42.0%	856,312	1,806,857	2,663,170	836,035	1,827,134	970,822	1,135
2024	2,319	42	42	852	1,976,457	65.6%	1,296,943	50,005	1,346,948	-	1,346,948	50,005	581
TOTAL	42,642				43,113,753		6,779,588	36,636,613	43,416,201	29,495,559	13,920,642	7,141,054	1,018
	<u>Pure Premium Selection</u>				Trend =	0.980							
	3-Year Average		835										
	5-Year Average		746										
	All Year Average		852										
	Selected Pure Premium		852										

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Other
Summary of Paid Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
RY	PAID LDM ULTIMATE	PAID LOSS	INCURRED LOSS	CASE RESERVE	IBNR RESERVE	UNPAID LOSS
1994	3,507,116	3,369,805	3,399,805	30,000	107,321	137,321
1995	3,093,591	2,893,591	3,093,591	200,000	-	200,000
1996	2,547,508	2,269,676	2,547,508	277,832	-	277,832
1997	3,678,448	3,678,448	3,678,448	-	-	-
1998	3,020,235	2,601,109	3,020,235	419,125	-	419,125
1999	2,722,748	2,722,748	2,722,748	-	-	-
2000	4,406,695	4,192,624	4,406,695	214,071	-	214,071
2001	1,088,480	1,031,527	1,055,182	23,655	30,298	53,952
2002	4,543,316	4,266,556	4,543,316	276,760	-	276,760
2003	3,514,265	3,083,893	3,514,265	430,373	-	430,373
2004	4,754,545	4,382,324	4,535,017	152,694	219,528	372,222
2005	2,188,334	1,986,936	2,116,804	129,867	71,531	201,398
2006	4,370,035	3,902,928	3,955,672	52,744	414,363	467,107
2007	944,690	826,375	849,275	22,902	95,414	118,316
2008	2,465,150	2,107,328	2,138,633	31,305	326,518	357,823
2009	943,108	943,108	943,108	-	-	-
2010	223,439	223,439	223,439	-	-	-
2011	2,494,564	1,529,896	2,494,564	964,667	-	964,667
2012	1,178,266	886,502	1,073,400	186,498	104,866	291,363
2013	1,262,136	904,045	998,657	94,612	262,879	358,491
2014	452,047	304,917	354,917	50,000	97,129	147,129
2015	4,269,518	2,660,786	2,929,629	268,843	1,339,889	1,608,732
2016	1,747,402	1,013,503	1,253,320	239,817	494,082	733,900
2017	2,049,709	1,108,402	1,263,750	155,348	785,960	941,308
2018	1,178,349	595,974	969,311	373,337	209,038	582,375
2019	2,559,541	1,153,052	1,494,977	341,924	1,064,565	1,406,489
2020	957,288	341,805	484,283	142,478	473,005	615,483
2021	335,232	101,906	163,257	61,351	171,975	233,325
2022	-	-	-	-	-	-
2023	380,858	49,217	184,000	134,783	196,858	331,641
2024	447,871	-	199,904	199,904	247,967	447,871
TOTAL	67,321,894	55,132,800	60,607,708	5,474,909	6,714,186	12,189,094

Development Period in Months																																																				
Y	22-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-481																					
1994	1.596	2.122	1.438	1.840	1.224	1.340	1.256	1.374	1.033	1.027	1.066	1.045	1.062	1.057	1.055	1.037	1.035	1.030	1.016	1.043	1.010	1.000	1.018	1.006	1.004	1.004	1.004	1.004	1.004	1.004	1.004																					
1995	1.760	2.186	1.744	1.986	1.132	1.386	1.102	1.376	1.062	1.062	1.076	1.054	1.076	1.062	1.062	1.042	1.024	1.014	1.014	1.012	1.012	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004																					
1996	1.931	2.391	1.777	1.897	1.678	1.269	1.332	1.060	1.130	1.071	1.029	1.033	1.054	1.140	1.002	1.054	1.094	1.043	1.018	1.081	1.007	1.000	1.017	1.000	1.004	1.004	1.004	1.004	1.004	1.004	1.004																					
1997	520.511	1.681	1.601	1.318	1.251	1.227	1.559	1.139	1.061	1.178	1.027	1.023	1.046	1.081	1.029	1.026	1.015	1.005	1.008	1.010	1.009	1.012	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.004																					
1998	1.835	1.986	1.715	1.853	1.785	1.186	1.318	1.059	1.116	1.059	1.116	1.059	1.116	1.059	1.116	1.059	1.116	1.059	1.116	1.059	1.116	1.059	1.116	1.059	1.116	1.059	1.116	1.059	1.116	1.059	1.004																					
1999	1.453	1.164	1.035	1.044	1.071	1.044	1.043	1.134	1.042	1.074	1.049	1.032	1.047	1.020	1.012	1.004	1.002	1.006	1.012	1.007	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.004																					
2000	8.917	1.206	1.216	1.172	1.090	1.079	1.091	1.076	1.157	1.053	1.037	1.032	1.036	1.009	1.034	1.025	1.034	1.028	1.012	1.097	1.016	1.015	1.010	1.005	1.001	1.003	1.002	1.000	1.000	1.000	1.004																					
2001	1.249	1.261	1.170	1.278	1.167	1.100	1.121	1.087	1.158	1.020	1.077	1.039	1.062	1.025	1.034	1.025	1.034	1.028	1.016	1.036	1.015	1.008	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.004																					
2002	3.256	2.453	2.032	1.367	1.462	1.240	1.180	1.126	1.054	1.044	1.077	1.079	1.065	1.072	1.035	1.077	1.032	1.036	1.020	1.005	1.003	1.000	1.008	1.000	1.001	1.003	1.000	1.000	1.000	1.000	1.004																					
2003	1.629	2.485	1.410	1.189	1.228	1.199	1.072	1.100	1.068	1.027	1.008	1.108	1.059	1.040	1.014	1.019	1.014	1.020	1.000	1.021	1.008	1.008	1.008	1.000	1.001	1.003	1.002	1.000	1.000	1.000	1.004																					
2004	1.349	1.261	1.139	1.261	1.139	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.062	1.004																					
2005	5.322	2.259	1.250	1.104	1.039	1.031	1.046	1.033	1.058	1.103	1.033	1.092	1.032	1.053	1.																																					

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance USI - Other
Selection of Loss Development Factors

RY	Development Period in Months																														
	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - 96	96 - 108	108 - 120	120 - 132	132 - 144	144 - 156	156 - 168	168 - 180	180 - 192	192 - 204	204 - 216	216 - 228	228 - 240	240 - 252	252 - 264	264 - 276	276 - 288	288 - 300	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372	
1994		1.566	2.122	1.438	1.840	1.224	1.340	1.256	1.374	1.033	1.027	1.066	1.045	1.062	1.057	1.055	1.027	1.035	1.030	1.016	1.043	1.010	1.020	1.018	1.006	1.004	1.004	1.009	1.135	1.013	
1995	3.760	1.734	1.593	1.161	1.131	1.269	1.382	1.086	1.093	1.276	1.062	1.051	1.033	1.037	1.032	1.021	1.022	1.024	1.014	1.015	1.001	1.012	1.007	1.000	1.003	1.000	1.000	1.000	1.000		
1996		2.391	4.177	1.897	1.678	1.269	1.332	1.060	1.130	1.071	1.029	1.053	1.054	1.140	1.002	1.054	1.034	1.094	1.043	1.081	1.007	1.000	1.017	1.000	1.004	1.009	1.007	1.015			
1997	520.511	1.681	1.601	1.318	1.251	1.227	1.559	1.139	1.061	1.178	1.027	1.023	1.046	1.081	1.029	1.026	1.015	1.005	1.008	1.010	1.009	1.012	1.002	1.000	1.000	1.000	1.000	1.000			
1998	18.330	1.363	1.853	1.780	1.189	1.171	1.075	1.059	1.104	1.156	1.118	1.118	1.199	1.046	1.167	1.035	1.092	1.081	1.015	1.038	1.023	1.004	1.002	1.001	1.000	1.003					
1999	1.433	1.116	1.035	1.044	1.071	1.044	1.043	1.153	1.042	1.074	1.049	1.032	1.027	1.020	1.019	1.012	1.004	1.002	1.006	1.012	1.007	1.007	1.000	1.000	1.000	1.000					
2000	8.917	1.206	1.216	1.172	1.090	1.079	1.091	1.076	1.157	1.053	1.017	1.012	1.036	1.009	1.034	1.025	1.024	1.028	1.012	1.097	1.016	1.015	1.010	1.005							
2001	1.729	1.108	1.687	1.112	1.158	1.220	1.100	1.171	1.005	1.045	1.023	1.028	1.025	1.010	1.033	1.097	1.051	1.044	1.036	1.015	1.008	1.000	1.005								
2002	3.256	2.453	2.032	1.367	1.442	1.240	1.180	1.126	1.054	1.044	1.077	1.079	1.065	1.072	1.035	1.077	1.032	1.026	1.020	1.005	1.013	1.000									
2003	3.629	2.485	1.410	1.189	1.228	1.199	1.072	1.100	1.068	1.027	1.049	1.080	1.108	1.059	1.072	1.014	1.019	1.014	1.020	1.003	1.021										
2004	6.103	1.809	1.261	1.316	1.260	1.135	1.132	1.107	1.123	1.052	1.041	1.049	1.033	1.044	1.027	1.011	1.015	1.001	1.004	1.006											
2005	5.222	2.259	1.250	1.304	1.109	1.038	1.046	1.033	1.054	1.103	1.033	1.050	1.032	1.053	1.025	1.019	1.016	1.027	1.000												
2006	100.428	1.629	1.471	1.443	1.147	1.195	1.128	1.059	1.101	1.326	1.291	1.157	1.195	1.157	1.000	1.002	1.008	1.010													
2007	45.101	1.733	1.075	1.017	1.041	1.044	1.029	1.102	1.029	1.011	1.015	1.033	1.000	1.000	1.006	1.012	1.000														
2008		1.535	1.328	1.277	1.493	1.274	1.276	1.178	1.118	1.138	1.053	1.049	1.077	1.009	1.010	1.012															
2009	2.291	1.458	1.263	1.107	1.204	1.079	1.036	1.033	1.004	1.008	1.020	1.000	1.000	1.000	1.000																
2010		2.208	2.273	1.135	1.042	1.130	1.052	1.017	1.040	1.000	1.000	1.000	1.000	1.000																	
2011	2.002	2.024	1.809	1.704	1.133	1.260	1.137	1.089	1.266	1.256	1.161	1.023	1.027																		
2012	6.056	1.931	1.627	1.289	1.221	1.139	1.025	1.143	1.020	1.041	1.101	1.062																			
2013		2.029	1.850	2.184	1.178	1.014	1.069	1.032	1.008	1.000	1.003																				
2014		2.013	1.147	1.138	1.313	1.128	1.116	1.046	1.013	1.000																					
2015	5.351	1.634	1.133	1.434	1.350	1.025	1.008	1.038	1.000																						
2016	4.953	1.891	1.395	1.131	1.324	1.102	1.052	1.134																							
2017		2.180	1.523	1.277	1.064	1.139	1.064																								
2018	6.785	1.824	1.256	1.116	1.161	1.228																									
2019		1.510	1.163	1.068	1.077	1.332																									
2020			5.505	1.220																											
2021		1.211	1.385																												
2022																															
2023	1.129																														
VOL WTD 3	2.522	2.810	1.120	1.144	1.192	1.146	1.034	1.061	1.003	1.015	1.097	1.034	1.015	1.006	1.006	1.007	1.009	1.010	1.009	1.005	1.015	1.006	1.006	1.003	1.000	1.003	1.002	1.007	1.068	1.013	
VOL WTD 5	1.680	1.458	1.243	1.175	1.273	1.083	1.043	1.066	1.044	1.090	1.074	1.033	1.035	1.073	1.007	1.030	1.013	1.014	1.014	1.026	1.014	1.007	1.004	1.002	1.001	1.003	1.002	1.007	1.068	1.013	
VOL WTD ALL	3.982	1.582	1.326	1.266	1.234	1.135	1.135	1.100	1.088	1.097	1.062	1.058	1.061	1.056	1.031	1.027	1.023	1.024	1.015	1.016	1.015	1.008	1.008	1.005	1.002	1.003	1.002	1.007	1.068	1.013	
ARITH 3	1.129	3.358	1.224	1.202	1.186	1.156	1.048	1.073	1.007	1.014	1.088	1.028	1.009	1.003	1.005	1.009	1.008	1.013	1.008	1.005	1.014	1.005	1.005	1.002	1.000	1.004	1.002	1.008	1.067	1.013	
ARITH 5	1.320	2.426	1.290	1.209	1.246	1.124	1.066	1.079	1.061	1.059	1.057	1.027	1.021	1.033	1.008	1.011	1.011	1.016	1.016	1.025	1.013	1.006	1.004	1.001	1.001	1.004	1.009	1.008	1.067	1.013	
ARITH ALL	37.526	1.934	1.376	1.317	1.256	1.154	1.140	1.097	1.085	1.090	1.060	1.054	1.055	1.047	1.032	1.020	1.026	1.030	1.017	1.027	1.015	1.007	1.008	1.004	1.002	1.004	1.003	1.008	1.067	1.013	
5 YR HI LO	NA	1.518	1.287	1.175	1.272	1.123	1.068	1.073	1.014	1.014	1.041	1.024	1.009	1.003	1.005	1.012	1.013	1.017	1.015	1.008	1.012	1.005	1.003	1.000	1.000	1.004	1.002	1.009	NA	NA	
7 YR HI LO	1.510	1.777	1.278	1.235	1.262	1.106	1.069	1.068	1.017	1.037	1.038	1.033	1.027	1.021	1.013	1.014	1.018	1.021	1.013	1.015	1.013	1.005	1.005	1.003	1.001	1.004	1.002	1.009	NA	NA	
ALL YR HI LO	12.715	1.828	1.496	1.316	1.241	1.155	1.137	1.094	1.074	1.082	1.050	1.051	1.050	1.043	1.025	1.027	1.022	1.027	1.017	1.022	1.013	1.007	1.007	1.003	1.001	1.004	1.002	1.009	NA	NA	
SELECTED	3.982	1.828	1.287	1.175	1.262	1.123	1.069	1.073	1.074	1.082	1.062	1.051	1.035	1.043	1.025	1.027	1.023	1.021	1.017	1.015	1.015	1.008	1.008	1.005	1.001	1.003	1.002	1.000	1.000	1.000	1.041

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance Unit - Other
Paid Losses

Development in Months																																	
RY	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372		
1994		67,556	105,762	224,445	322,720	593,891	727,102	973,960	1,223,383	1,680,534	1,736,151	1,783,144	1,901,121	1,985,974	2,108,783	2,229,646	2,353,177	2,416,592	2,500,825	2,575,464	2,617,719	2,729,017	2,757,576	2,813,689	2,862,976	2,879,778	2,892,263	2,904,608	2,930,701	3,325,762	3,369,805		
1995	57,146	214,861	372,610	593,564	699,047	779,151	988,375	1,365,685	1,483,319	1,621,206	2,068,109	2,195,718	2,307,489	2,384,650	2,474,037	2,554,120	2,607,829	2,663,932	2,728,277	2,767,464	2,808,933	2,811,884	2,845,490	2,864,027	2,884,276	2,884,276	2,893,591	2,893,591	2,893,591				
1996	-	17,700	42,316	176,760	335,328	562,825	713,987	950,907	1,008,006	1,138,950	1,219,963	1,255,045	1,321,564	1,392,644	1,587,262	1,590,384	1,676,801	1,734,357	1,897,262	1,979,584	2,139,915	2,154,274	2,154,274	2,154,274	2,191,849	2,191,849	2,200,780	2,220,428	2,236,594	2,268,676			
1997	439	228,598	384,266	615,310	810,739	1,014,623	1,245,366	1,941,775	2,211,344	2,345,205	2,763,348	2,836,923	2,901,679	3,033,730	3,280,943	3,376,266	3,462,906	3,516,084	3,532,892	3,559,664	3,594,408	3,626,458	3,669,572	3,678,448	3,678,448	3,678,448	3,678,448	3,678,448					
1998	6,465	118,511	161,556	295,311	532,819	688,509	747,140	804,023	851,858	940,596	1,087,259	1,215,580	1,359,258	1,626,754	1,704,629	1,989,855	2,018,841	2,204,678	2,382,158	2,418,884	2,510,541	2,568,757	2,584,769	2,590,454	2,593,088	2,593,088	2,601,109						
1999	357,471	1,234,237	1,376,895	1,425,317	1,488,590	1,594,064	1,663,943	1,738,098	2,001,842	2,085,194	2,238,708	2,349,101	2,424,075	2,490,058	2,539,119	2,586,864	2,618,422	2,637,746	2,634,286	2,650,903	2,683,553	2,702,953	2,722,748	2,722,748	2,722,748	2,722,748	2,722,748						
2000	114,187	1,018,212	1,227,935	1,493,269	1,750,358	1,808,405	2,059,006	2,247,037	2,418,072	2,797,305	2,945,750	2,995,139	3,091,814	3,203,887	3,333,491	3,444,627	3,426,721	3,508,911	3,605,836	3,649,865	4,003,655	4,067,021	4,126,675	4,169,938									
2001	104,196	180,134	199,654	336,731	374,550	431,730	529,272	581,938	681,517	684,727	715,180	732,297	752,978	771,454	779,324	805,227	883,218	928,198	968,904	1,003,341	1,018,271	1,026,602	1,026,602	1,031,527									
2002	39,750	129,433	317,549	646,166	881,959	1,448,299	1,795,420	2,115,144	2,385,722	2,515,613	2,626,157	2,827,608	3,051,616	3,249,469	3,481,473	3,604,479	3,881,563	4,004,641	4,106,762	4,189,484	4,210,452	4,266,556											
2003	70,930	257,387	639,714	902,054	1,072,965	1,317,164	1,579,451	1,692,868	1,861,811	1,989,347	2,043,300	2,143,512	2,315,479	2,565,592	2,717,089	2,817,658	2,856,078	2,910,296	2,950,945	3,011,404	3,021,286	3,083,893											
2004	90,918	554,838	1,003,934	1,365,633	1,665,587	2,099,306	2,382,002	2,697,142	2,987,009	3,355,323	3,528,803	3,673,274	3,851,449	3,939,069	4,112,757	4,223,202	4,271,607	4,334,593	4,338,651	4,357,924	4,382,324												
2005	64,509	336,850	760,805	951,148	1,049,818	1,164,238	1,184,748	1,238,896	1,279,491	1,348,838	1,487,208	1,535,671	1,677,117	1,731,576	1,823,327	1,868,233	1,903,410	1,933,923	1,986,936	1,986,936													
2006	2,233	224,299	365,337	537,313	775,151	888,935	1,062,080	1,197,945	1,268,221	1,395,888	1,851,282	2,389,601	2,764,255	3,304,645	3,823,843	3,824,736	3,833,223	3,862,716	3,902,928														
2007	7,065	318,642	552,262	593,816	603,938	628,469	656,318	675,212	744,229	765,632	774,413	785,680	811,327	811,327	811,327	816,275	826,373	826,373															
2008		154,080	205,854	273,370	472,091	704,738	898,168	1,146,107	1,350,478	1,510,195	1,717,896	1,899,564	1,898,415	2,044,361	2,062,340	2,082,101	2,107,328																
2009	140,848	322,681	470,506	594,291	657,716	792,191	854,383	884,880	913,849	917,398	924,493	943,108	943,108	943,108	943,108	943,108																	
2010		29,916	66,069	150,177	170,474	177,574	200,650	211,147	214,795	223,439	223,439	223,439	223,439	223,439	223,439																		
2011	34,886	69,855	141,373	264,278	450,244	510,175	642,565	724,726	789,478	899,155	1,254,601	1,456,728	1,489,524	1,529,896																			
2012	17,882	108,288	209,139	340,184	438,523	535,264	609,736	624,675	714,076	728,666	758,294	834,910	886,902																				
2013	-	82,788	168,015	310,824	678,846	799,890	810,824	866,715	894,386	901,545	901,545	904,045																					
2014		44,273	133,285	152,017	174,091	228,658	257,839	287,806	301,110	304,917																							
2015	129,482	692,863	1,132,035	1,282,058	1,839,001	2,482,178	2,544,354	2,564,169	2,660,786	2,660,786																							
2016	39,426	195,261	369,308	515,059	582,529	770,594	849,586	893,887	1,013,503																								
2017		199,097	434,059	660,895	843,710	897,982	1,022,412																										
2018	24,083	163,397	298,091	374,370	417,839	485,126	595,974																										
2019	428,443	647,159	752,622	804,016	865,583	1,153,052																											
2020	-	36,025	198,330	242,893																													
2021	-	60,751	73,580	101,906																													
2022	-	-	-																														
2023	43,599	49,217																															
2024																																	

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance LST - Other
Summary of Incurred Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
BY	INC LDM ULTIMATE	PAID LOSS	INCURRED LOSS	CASE RESERVE	BNR RESERVE	UNPAID LOSS
1994	3,399,805	3,399,805	3,399,805	30,000	-	30,000
1995	3,093,591	2,893,591	3,093,591	200,000	-	200,000
1996	2,547,508	2,269,676	2,547,508	277,832	-	277,832
1997	3,678,448	3,678,448	3,678,448	-	-	-
1998	3,020,235	2,601,109	3,020,235	419,125	-	419,125
1999	2,722,748	2,722,748	2,722,748	-	-	-
2000	4,406,695	4,192,604	4,406,695	214,091	-	214,091
2001	1,055,182	1,031,527	1,055,182	23,655	-	23,655
2002	4,543,210	4,266,556	4,543,316	276,760	(106)	276,654
2003	3,530,447	3,083,893	3,514,265	430,373	16,182	446,554
2004	4,580,973	4,382,324	4,535,017	152,694	46,956	198,650
2005	2,174,109	1,986,936	2,116,804	129,867	57,306	187,173
2006	4,132,909	3,902,928	3,955,672	52,744	177,237	229,981
2007	894,301	626,375	849,275	22,902	45,025	67,927
2008	2,268,306	2,107,328	2,138,633	31,305	129,673	160,978
2009	1,016,053	943,108	943,108	-	72,944	72,944
2010	342,879	223,439	223,439	-	58,440	15,440
2011	2,725,708	1,529,896	2,494,564	964,667	231,145	1,195,812
2012	1,176,236	886,902	1,073,400	186,498	102,836	289,334
2013	1,102,328	904,045	998,657	94,612	104,272	196,883
2014	400,015	304,917	354,917	50,000	45,097	95,097
2015	3,402,650	2,660,786	2,929,629	268,843	473,022	741,864
2016	1,482,334	1,013,503	1,253,320	239,817	229,613	469,431
2017	1,573,208	1,108,402	1,263,750	155,348	309,458	464,806
2018	1,285,140	595,974	969,311	373,337	315,829	689,166
2019	2,136,146	1,153,052	1,494,977	341,324	641,590	983,514
2020	743,964	341,805	484,283	142,478	259,681	402,159
2021	279,059	101,906	163,257	61,351	115,803	177,153
2022	-	-	-	-	-	-
2023	400,310	49,217	184,000	134,783	216,310	351,093
2024	774,691	-	199,904	199,904	574,787	774,691
TOTAL	64,790,807	55,132,800	60,607,708	5,474,909	4,183,099	9,658,008

BY	Development Period in Months																														
	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - 96	96 - 108	108 - 120	120 - 132	132 - 144	144 - 156	156 - 168	168 - 180	180 - 192	192 - 204	204 - 216	216 - 228	228 - 240	240 - 252	252 - 264	264 - 276	276 - 288	288 - 300	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372	
1994	15.451	1.018	1.063	1.379	1.386	1.238	0.981	1.166	1.020	0.997	0.977	0.872	1.009	1.044	0.972	1.047	0.992	1.021	1.045	1.023	1.052	1.008	0.962	1.000	1.000	1.001	1.138	1.004	1.013	0.971	
1995	1.245	0.937	1.155	0.988	1.043	1.069	1.204	0.975	1.001	1.145	0.992	1.010	1.043	0.997	1.033	1.005	1.012	0.983	1.008	1.000	1.002	1.012	1.000	1.001	1.000	1.000	1.060	1.000	1.000		
1996	0.783	1.411	1.368	1.380	1.056	1.117	1.105	1.027	1.010	0.884	0.936	1.043	1.017	1.103	1.016	1.097	0.999	1.028	1.181	1.000	1.000	1.000	1.015	1.000	1.000	1.000	1.070	1.000			
1997	1.860	1.230	1.198	1.413	1.137	1.171	1.111	1.037	1.003	1.089	1.016	0.971	1.084	1.034	1.005	1.005	1.002	1.014	1.002	1.001	0.997	1.003	1.000	1.000	1.000	1.000		0.991			
1998	1.032	0.989	1.073	1.294	1.108	1.049	1.241	1.024	1.091	0.997	1.032	0.962	1.077	1.112	1.061	1.018	1.079	1.017	1.023	1.000	1.002	1.010	1.000	1.000	1.000	1.000	1.000	1.005			
1999	1.034	1.090	1.052	1.039	1.011	0.999	1.185	1.022	1.029	1.061	1.028	0.999	0.996	1.005	0.996	0.999	1.000	1.000	0.991	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000				
2000	1.255	1.096	1.119	1.055	1.021	1.029	1.063	1.049	1.044	1.051	1.024	1.025	1.000	1.014	0.998	1.028	1.002	0.979	0.998	1.085	1.018	1.040	1.000	1.010							
2001	0.974	0.874	1.046	1.005	1.062	1.075	0.986	1.015	0.991	1.000	1.020	1.034	1.000	1.109	1.000	1.000	1.010	1.000	0.953	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
2002	1.015	1.073	0.969	1.211	1.074	1.037	1.026	1.103	1.039	1.026	1.089	1.034	1.033	1.034	1.015	1.041	1.001	1.015	1.000	1.000	1.001	1.000	1.001								
2003	0.931	1.129	1.067	0.881	1.164	1.048	1.003	1.017	0.993	1.093	1.063	1.007	0.996	1.012	1.024	0.999	1.003	1.009	1.033	1.045	1.000										
2004	0.775	1.030	1.089	1.071	1.138	1.004	1.096	1.069	1.092	1.005	1.022	0.997	1.008	1.025	1.007	1.036	0.999	1.000	1.000	1.005											
2005	1.822	1.024	1.042	0.960	0.988	1.032	1.023	1.000	1.013	1.029	1.038	1.054	1.034	1.001	1.052	0.997	1.008	1.018	1.000												
2006	1.152	1.011	1.056	1.179	0.992	1.005	1.068	1.082	1.148	1.060	1.015	1.002	1.163	1.148	0.977	1.012	1.000	0.994													
2007	0.859	0.861	0.898	1.026	1.003	1.019	1.041	1.139	1.000	1.000	1.000	0.963	1.000	1.000	1.000	1.016	1.000														
2008	1.310	1.076	1.062	1.284	1.133	1.178	1.124	1.113	1.056	1.015	1.013	1.016	1.009	1.000	1.004	1.000															
2009	0.838	0.960	1.065	1.041	1.068	1.009	0.984	0.981	1.000	1.011	0.996	1.000	1.000	1.000	1.000																
2010	1.292	1.275	1.339	1.000	1.000	1.038	1.037	0.947	0.994	1.000	1.000	1.000	1.000	1.000	1.000																
2011	1.186	0.941	2.132	1.086	1.074	1.620	0.747	1.074	1.007	1.246	1.000	1.107	1.117																		
2012	1.319	1.158	1.159	1.093	1.463	0.990	1.158	1.000	1.000	1.000	1.055	0.997																			
2013	1.390	0.989	1.040	1.623	0.957	0.959	1.062	1.000	0.991	1.000	1.000																				
2014	1.602	0.891	1.000	1.121	1.000	1.101	1.191	1.000	0.845	1.000																					
2015	1.817	1.132	0.979	1.218	1.251	1.047	1.000	1.000	1.034	0.999																					
2016	0.838	1.184	1.170	1.082	1.013	1.031	1.000	1.157																							
2017	2.792	1.314	1.247	0.979	1.011	1.036																									
2018	1.151	1.170	1.056	1.026	1.021	1.201																									
2019	1.422	0.953	0.979	1.011	1.045																										
2020	1.172	1.406	0.916	1.171																											
2021	0.512	1.000	1.047																												
2022																															
2023	0.825																														
VOL WTD 3	0.552	1.286	0.971	1.041	1.027	1.077	0.994	1.061	0.982	1.000	1.014	1.064	1.077	1.000	1.002	1.009	1.003	1.001	1.011	1.014	1.001	1.017	1.000	1.004	1.000	1.002	1.034	1.002	1.007	0.971	
VOL WTD 5	1.113	1.065	1.061	1.033	1.098	1.065	1.014	1.042	0.991	1.094	1.010	1.039	1.044	1.068	1.002	1.016	1.002	1.006	1.003	1.029	1.006	1.012	1.000	1.005	1.000	1.001	1.060	1.002	1.007	0.971	
VOL WTD ALL	1.172	1.060	1.089	1.113	1.089	1.078	1.053	1.052	1.031	1.042	1.021	1.004	1.052	1.047	1.009	1.000	1.007	1.005	1.017	1.016	1.008	1.010	0.995	1.004	1.000	1.001	1.060	1.002	1.007	0.971	
ARITH 3	0.668	1.213	0.981	1.069	1.026	1.089	0.992	1.063	0.945	1.000	1.018	1.035	1.039	1.000	1.001	1.009	1.003	1.004	1.011	1.017	1.001	1.013	1.000	1.003	1.000	1.002	1.040	1.001	1.006	0.971	
ARITH 5	0.963	1.137	1.049	1.054	1.068	1.083	1.046	1.038	0.969	1.049	1.010	1.024	1.025	1.030	1.007	1.012	1.002	1.007	0.997	1.027	1.004	1.010	1.000	1.005	1.000	1.001	1.065	1.001	1.006	0.971	
ARITH ALL	1.781	1.080	1.121	1.134	1.085	1.085	1.059	1.045	1.017	1.034	1.016	1.006	1.029	1.049	1.010	1.000	1.009	1.006	1.020	1.014	1.007	1.008	0.995	1.004	1.000	1.001	1.065	1.001	1.006	0.971	
5 YR H L O	0.998	1.085	1.027	1.040	1.026	1.061	1.021	1.011	0.997	1.000	1.000	1.005	1.003	1.000	1.001	1.009	1.001	1.008	1.000	1.017	1.001	1.003	1.000	1.003	1.000	1.000	1.005	1.000	NA	NA	
7 YR H L O	1.553	1.167	1.046	1.082	1.018	1.041	1.039	1.021	0.997	1.005	1.003	1.003	1.032	1.005	1.007	1.012	1.003	1.003	1.000	1.010	1.001	1.003	1.000	1.002	1.000	1.000	1.005	1.000	NA	NA	
ALL YR H L O	1.327	1.075	1.091	1.124	1.075	1.066	1.065	1.044	1.019	1.011	1.016	1.008	1.025	1.035	1.009	1.016	1.005	1.006	1.011	1.008	1.003	1.005	1.000	1.002	1.000	1.000	1.005	1.000	NA	NA	
SELECTED	1.781	1.167	1.091	1.113	1.075	1.078	1.065	1.052	1.019	1.011	1.021	1.008	1.003	1.005	1.009	1.016	1.007	1.008	1.017	1.017	1.006	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Development in Months									
1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1,505,467	1,020,018	1,021,016	1,081,349	1,499,341	2,078,139	2,574,085	2,552,449	2,344,082	3,003,758
1,345,826	1,353,606	1,379,440	1,394,070	1,499,341	1,984,070	2,467,429	2,435,614	2,321,478	2,924,880
1,363,826	1,378,606	1,403,440	1,418,070	1,519,341	2,009,070	2,497,429	2,466,614	2,346,478	2,949,880
1,638,958	1,093,413	1,071,793	959,776	1,324,610	1,399,259	1,562,675	1,728,825	1,773,459	1,793,890
1,997	902,583	1,190,245	1,310,150	1,347,316	2,234,227	2,991,886	2,880,198	2,988,984	2,997,120
1998	1,786,480	1,786,480	1,786,480	1,786,480	1,786,480	1,786,480	1,786,480	1,786,480	1,786,480
1999	1,712,508	1,770,639	1,980,013	2,038,026	2,108,225	2,111,472	2,125,530	2,577,625	2,653,444
2000	1,688,060	2,131,795	2,337,379	2,644,121	2,758,703	2,889,853	3,081,798	3,216,082	3,377,793
2001	2,021,627	1,794,635	788,017	779,435	807,374	809,006	822,903	914,707	914,707
2002	2,103,792	2,116,795	2,232,076	2,220,507	2,600,006	2,888,001	2,995,721	3,077,653	3,160,434
2003	2,102,627	2,037,947	2,037,947	2,162,594	2,516,165	2,638,216	2,689,866	2,918,788	3,102,347
2004	3,003,287	2,327,925	2,398,477	2,611,344	2,796,197	3,183,380	3,197,130	3,503,732	3,744,551
2005	855,094	1,558,332	1,595,861	1,596,124	1,596,124	1,597,303	1,627,822	1,646,504	1,665,200
2006	1,680,496	1,680,496	1,680,496	1,680,496	1,680,496	1,680,496	1,680,496	1,680,496	1,680,496
2007	1,049,030	901,475	775,684	697,128	715,705	717,504	731,520	761,453	867,453
2008	596,136	781,242	840,668	891,113	1,047,030	1,299,395	1,530,368	1,702,312	1,915,158
2009	2,006,237	1,843,871	1,843,871	1,843,871	1,843,871	1,843,871	1,843,871	1,843,871	1,843,871
2010	100,002	129,253	164,788	220,645	220,645	220,645	228,932	237,342	224,795
2011	443,523	526,638	494,996	996,259	1,146,204	1,230,702	2,005,572	2,147,560	1,608,103
2012	414,417	414,462	414,462	407,983	588,634	880,779	1,000,206	1,000,206	1,000,206
2013	465,007	618,612	611,639	636,393	1,032,995	980,013	948,554	1,007,339	998,657
2014	200,006	200,003	285,522	326,522	330,154	332,158	438,807	419,807	354,917
2015	981,504	1,405,384	1,405,384	1,405,384	1,405,384	1,405,384	1,405,384	1,405,384	1,405,384
2016	825,404	691,948	818,967	954,451	1,029,429	1,050,982	1,081,989	1,085,599	1,253,320
2017	776,235	771,153	1,013,157	1,244,398	1,236,121	1,203,238	1,295,631	1,244,398	1,244,398
2018	198,003	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000
2019	1,007,509	1,517,150	1,445,774	1,415,866	1,483,865	1,494,977	1,494,977	1,494,977	1,494,977
2020	170,000	316,500	451,429	413,571	484,283				
2021	304,401	155,916	161,207						
2022	88,001								
2023	221,100	184,000							
2024	199,904								

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Other
Determination of Pure Premium

(1)	(2)	(3)	(4)	(5)	(6)
<u>RY</u>	<u>PAID LDM</u> <u>ULTIMATE</u>	<u>INC LDM</u> <u>ULTIMATE</u>	<u>SELECTED</u> <u>ULTIMATE</u>	<u>POLICIES</u> <u>IN FORCE</u>	<u>PURE</u> <u>PREMIUM</u>
1994					
1995					
1996					
1997					
1998					
1999					
2000					
2001					
2002					
2003					
2004					
2005					
2006					
2007					
2008	2,465,150	2,268,306	2,366,728	2,664	888
2009	943,108	1,016,053	979,580	2,662	368
2010	223,439	242,879	233,159	2,622	89
2011	2,494,564	2,725,708	2,610,136	2,623	995
2012	1,178,266	1,176,236	1,177,251	2,617	450
2013	1,262,536	1,102,928	1,182,732	2,603	454
2014	452,047	400,015	426,031	2,573	166
2015	4,269,518	3,402,650	3,836,084	2,530	1,516
2016	1,747,402	1,482,934	1,615,168	2,509	644
2017	2,049,709	1,573,208	1,573,208	2,489	632
2018	1,178,349	1,285,140	1,285,140	2,487	517
2019	2,559,541	2,136,566	2,136,566	2,413	885
2020	957,288	743,964	743,964	2,408	309
2021	335,232	279,059	279,059	2,405	116
2022	-	-	-	2,371	-
2023	380,858	400,310	400,310	2,347	171
2024	447,871	774,691	774,691	2,319	334
TOTAL	22,944,878	21,010,647	21,619,807	42,642	507

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Other
Paid Bornhuetter-Ferguson Method

(1) RY	(2) POLICIES IN FORCE	(3) PROJECTED PURE PREM	(4) TRENDED PURE PREM	(5) DETRENDED PURE PREM	(6) EXPECTED LOSSES	(7) PERCENT UNPAID	(8) EXPECTED UNPAID	(9) PAID LOSSES	(10) INDICATED ULTIMATE	(11) INCURRED LOSSES	(12) IBNR RESERVE	(13) CASE RESERVE	(14) ULTIMATE PURE PREM
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	2,664	888	278	850	2,263,886	14.5%	328,609	2,107,328	2,435,936	2,138,633	297,304	31,305	914
2009	2,662	368	124	790	2,103,833	16.8%	352,927	943,108	1,296,036	943,108	352,927	-	487
2010	2,622	89	32	735	1,927,165	18.8%	361,999	223,439	585,438	223,439	361,999	-	223
2011	2,623	995	387	684	1,792,947	22.1%	396,605	1,529,896	1,926,501	2,494,564	(568,062)	964,667	734
2012	2,617	450	188	636	1,663,627	24.7%	411,384	886,902	1,298,286	1,073,400	224,887	186,498	496
2013	2,603	454	205	591	1,538,896	28.4%	436,962	904,045	1,341,007	998,657	342,350	94,612	515
2014	2,573	166	80	550	1,414,679	32.5%	460,441	304,917	765,358	354,917	410,441	50,000	297
2015	2,530	1,516	789	511	1,293,664	37.7%	487,446	2,660,786	3,148,232	2,929,629	218,603	268,843	1,244
2016	2,509	644	360	476	1,193,121	42.0%	501,104	1,013,503	1,514,607	1,253,320	261,287	239,817	604
2017	2,489	632	380	442	1,100,758	45.9%	505,512	1,108,402	1,613,913	1,263,750	350,164	155,348	648
2018	2,487	517	334	411	1,022,882	49.4%	505,538	595,974	1,101,513	969,311	132,201	373,337	443
2019	2,413	885	616	383	922,975	55.0%	507,183	1,153,052	1,660,235	1,494,977	165,258	341,924	688
2020	2,408	309	231	356	856,588	64.3%	550,739	341,805	892,544	484,283	408,261	142,478	371
2021	2,405	116	93	331	795,635	69.6%	553,772	101,906	655,678	163,257	492,421	61,351	273
2022	2,371	-	-	308	729,480	76.4%	557,156	-	557,156	-	557,156	-	235
2023	2,347	171	159	286	671,549	87.1%	584,766	49,217	633,984	184,000	449,984	134,783	270
2024	2,319	334	334	266	617,090	96.8%	597,066	-	597,066	199,904	397,162	199,904	257
TOTAL	42,642				21,908,775		8,099,209	13,924,281	22,023,490	17,169,147	4,854,343	3,244,866	516

<u>Pure Premium Selection</u>	Trend =	0.930
3-Year Average x Latest	84	
5-Year Average x Latest	220	
All Year Average x Latest	266	
Selected Pure Premium	266	

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance UST - Other
Incurred Bornhuetter-Ferguson Method

(1) RY	(2) POLICIES IN FORCE	(3) PROJECTED PURE PREM	(4) TRENDED PURE PREM	(5) DETRENDED PURE PREM	(6) EXPECTED LOSSES	(7) PERCENT IBNR	(8) EXPECTED IBNR	(9) INCURRED LOSSES	(10) INDICATED ULTIMATE	(11) PAID LOSSES	(12) UNPAID LOSS	(13) CASE RESERVE	(14) ULTIMATE PURE PREM
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	2,664	888	278	850	2,263,886	5.7%	129,420	2,138,633	2,268,053	2,107,328	160,725	31,305	851
2009	2,662	368	124	790	2,103,833	7.2%	151,038	943,108	1,094,146	943,108	151,038	-	411
2010	2,622	89	32	735	1,927,165	8.0%	154,252	223,439	377,691	223,439	154,252	-	144
2011	2,623	995	387	684	1,792,947	8.5%	152,045	2,494,564	2,646,609	1,529,896	1,116,713	964,667	1,009
2012	2,617	450	188	636	1,663,627	8.7%	145,448	1,073,400	1,218,848	886,902	331,945	186,498	466
2013	2,603	454	205	591	1,538,896	9.5%	145,489	998,657	1,144,145	904,045	240,100	94,612	440
2014	2,573	166	80	550	1,414,679	11.3%	159,490	354,917	514,407	304,917	209,490	50,000	200
2015	2,530	1,516	789	511	1,293,664	13.9%	179,840	2,929,629	3,109,468	2,660,786	448,682	268,843	1,229
2016	2,509	644	360	476	1,193,121	15.5%	184,739	1,253,320	1,438,060	1,013,503	424,557	239,817	573
2017	2,489	632	380	442	1,100,758	19.7%	216,525	1,263,750	1,480,274	1,108,402	371,873	155,348	595
2018	2,487	517	334	411	1,022,882	24.6%	251,378	969,311	1,220,689	595,974	624,715	373,337	491
2019	2,413	885	616	383	922,975	30.0%	277,160	1,494,977	1,772,137	1,153,052	619,085	341,924	734
2020	2,408	309	231	356	856,588	34.9%	298,993	484,283	783,276	341,805	441,471	142,478	325
2021	2,405	116	93	331	795,635	41.5%	330,168	163,257	493,425	101,906	391,519	61,351	205
2022	2,371	-	-	308	729,480	46.4%	338,163	-	338,163	-	338,163	-	143
2023	2,347	171	159	286	671,549	54.0%	362,876	184,000	546,876	49,217	497,658	134,783	233
2024	2,319	334	334	266	617,090	74.2%	457,854	199,904	657,758	-	657,758	199,904	284
TOTAL	42,642				21,908,775		3,934,878	17,169,147	21,104,025	13,924,281	7,179,743	3,244,866	495

<u>Pure Premium Selection</u>	Trend =	0.930
3-Year Average x Latest	84	
5-Year Average x Latest	220	
All Year Average x Latest	266	
Selected Pure Premium	266	

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial UST
Summary of Paid Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
RY	PAID LOSS ULTIMATE	PAID LOSS	INCURRED LOSS	CASE RESERVE	8888 RESERVE	UNPAID LOSS
1994			-	-	-	-
1995	114,007	114,007	114,007	-	-	-
1996	70,110,485	64,527,453	69,820,762	5,393,349	189,723	5,583,073
1997	9,433,013	8,634,234	9,208,051	573,817	224,962	798,779
1998	19,628,624	17,857,097	19,103,196	1,246,398	125,229	1,771,337
1999	8,610,491	7,780,416	8,478,295	697,879	132,196	830,075
2000	16,180,642	14,318,217	16,380,642	2,042,385	-	2,042,385
2001	3,393,827	2,466,416	3,393,827	887,211	-	887,211
2002	3,379,144	2,975,246	3,219,727	264,482	135,417	399,898
2003	1,361,373	1,092,486	1,116,652	44,207	125,321	149,527
2004	2,454,656	1,810,428	2,454,656	646,228	-	646,228
2005	2,883,010	2,391,427	2,788,380	396,953	94,630	491,583
2006	811,501	445,501	811,501	366,000	-	366,000
2007	1,576,463	1,257,047	1,367,517	110,470	208,937	319,406
2008	705,588	705,588	705,588	-	-	-
2009	945,295	712,041	815,942	103,001	130,253	233,254
2010	823,409	578,782	823,409	244,627	-	244,627
2011	1,772,862	1,135,081	1,772,862	637,781	-	637,781
2012	305,720	305,720	305,720	-	-	-
2013	1,773,023	1,183,499	1,356,966	173,467	416,058	589,525
2014	1,101,024	714,272	869,123	154,951	212,801	387,652
2015	171,340	107,157	107,158	1	64,182	64,183
2016	1,266,657	761,329	1,228,556	465,227	38,101	503,328
2017	1,102,288	618,460	655,198	36,539	447,089	483,628
2018	1,185,319	620,860	784,953	164,093	400,406	564,499
2019	636,240	303,416	544,212	243,796	92,009	332,805
2020	258,212	106,211	258,212	152,001	-	152,001
2021	228,622	81,880	184,642	100,762	43,980	144,742
2022	689,616	191,485	658,217	466,751	31,399	498,151
2023	676,430	84,385	249,601	165,216	428,829	592,046
2024	465,112	12,373	248,002	235,629	201,190	436,799
TOTAL	154,087,383	133,916,930	149,936,931	36,030,030	4,360,652	20,170,672

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Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2014
Remedial UST
Summary of Incurred Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
BY	INCURRED ULTIMATE	PAID LOSSES	INCURRED LOSSES	CASE RESERVE	HOME RESERVE	UNPAID LOSSES
1994	-	-	-	-	-	-
1995	114,827	114,827	114,827	-	-	-
1996	69,920,762	64,527,413	69,920,762	5,393,349	-	5,393,349
1997	9,208,051	8,634,234	9,208,051	573,817	-	573,817
1998	19,103,396	27,857,097	19,103,396	1,246,298	-	1,246,298
1999	8,478,295	7,780,416	8,478,295	697,879	-	697,879
2000	16,438,126	14,338,257	16,880,642	2,042,385	57,884	2,100,069
2001	1,365,837	2,466,616	3,353,827	887,211	11,810	899,021
2002	3,251,136	2,975,246	3,239,727	264,482	11,409	275,890
2003	1,148,016	1,092,445	1,138,052	44,207	11,404	55,810
2004	2,500,145	1,816,428	2,456,656	446,238	43,489	689,717
2005	2,868,428	2,391,427	2,788,380	396,953	80,048	477,001
2006	842,854	445,501	811,901	366,000	21,353	297,353
2007	1,441,642	1,257,047	1,367,517	110,470	74,125	184,595
2008	750,817	705,588	705,588	-	45,228	45,228
2009	868,654	712,045	815,042	103,001	53,612	156,613
2010	883,257	578,782	823,409	244,627	59,848	304,475
2011	1,923,544	1,135,081	1,772,862	637,781	191,082	608,864
2012	341,748	305,720	305,720	-	36,028	36,028
2013	1,536,070	1,183,499	1,356,866	173,467	179,104	352,571
2014	988,848	714,272	860,123	154,851	119,726	274,576
2015	123,477	107,157	107,158	1	16,319	16,320
2016	1,444,858	763,129	1,228,556	465,227	216,302	681,529
2017	802,487	618,860	655,198	36,139	147,288	183,427
2018	975,159	620,860	784,953	164,093	190,206	354,299
2019	682,965	303,436	544,232	240,796	138,733	379,129
2020	331,260	106,211	258,212	152,001	73,039	225,040
2021	246,589	83,880	184,642	105,762	61,948	142,710
2022	981,307	191,485	658,217	466,751	323,070	780,821
2023	397,859	84,385	249,601	165,216	148,258	313,474
2024	701,085	12,373	248,002	238,629	403,083	688,712
TOTAL	152,701,125	113,936,910	149,536,931	16,010,020	2,774,194	18,784,215

		Development Period in Months																															
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384		
1994	1.00																																
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1996	0.982	1.033	0.991	1.067	1.087	1.054	1.022	0.986	0.975	1.000	0.996	1.019	1.016	1.030	1.013	1.015	1.034	1.023	1.013	1.000	1.004	1.011	1.002	1.002	1.006	1.011	1.009	1.000	1.000	1.000	1.000	1.000	
1997	1.396	1.136	1.162	1.127	1.028	0.954	0.865	1.029	1.086	0.987	1.020	1.012	1.002	1.015	1.000	1.012	1.002	1.015	1.012	0.992	1.014	1.011	0.988	1.004	1.008	1.011	1.004	1.000	1.000	1.000	1.000	1.000	
1998	1.124	1.386	1.084	1.048	1.045	0.988	1.004	1.048	1.012	1.016	1.052	1.024	1.027	1.042	1.012	1.001	1.040	1.005	0.996	1.022	1.016	0.999	0.996	0.996	0.999	1.001	1.000	1.000	1.000	1.000	1.000	1.000	
1999	1.389	0.914	0.939	0.914	0.866	0.914	0.866	0.914	1.015	1.015	1.012	1.011	1.011	0.997	1.000	1.015	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	
2000	1.144	1.133	1.038	0.934	0.926	1.063	1.055	1.053	1.020	0.993	0.996	1.011	1.010	1.012	1.023	1.018	1.007	1.029	1.013	1.009	1.010	0.997	0.981	1.012	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2001	0.887	1.044	0.845	0.979	0.876	1.081	1.101	1.045	0.957	1.025	1.000	0.981	0.953	1.003	1.019	1.002	1.000	1.041	0.975	0.973	1.003	0.999	0.990	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2002	1.056	0.961	0.912	0.932	1.000	1.041	0.937	1.018	1.185	1.082	0.991	0.983	1.010	1.074	1.000	0.999	1.010	0.990	0.979	1.000	1.000	0.999	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2003	0.768	1.061	0.829	0.946	0.999	1.086	1.062	1.015	1.013	0.999	1.018	0.960	1.011	1.000	0.994	1.018	1.017	0.998	1.000	1.000	1.000	0.999	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2004	0.793	0.960	1.015	1.055	0.994	1.060	0.960	1.012	0.990	0.965	1.018	0.990	1.014	1.125	1.046	1.000	1.000	1.115	0.980	1.008	1.006	1.000	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2005	0.933	0.960	1.008	0.982	1.011	0.876	1.016	1.012	1.006	0.990	1.011	0.993	1.008	1.016	1.000	0.987	1.000	1.011	0.999	1.011	1.000	1.000	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2006	0.767	0.950	1.005	1.035	0.886	0.992	1.000	1.000	1.000	0.889	1.332	1.000	1.173	1.000	1.000	1.142	1.134	1.100	1.011	1.008	1.006	1.000	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2007	0.911	1.068	1.001	0.954	1.021	1.090	1.075	1.047	0.964	1.000	1.030	1.026	1.000	1.039	1.003	0.987	0.994	1.015	1.010	1.011	1.008	1.000	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	0.735	0.932	0.985	1.262	1.008	1.025	0.999	1.000	0.961	1.000	1.084	1.037	1.000	0.990	1.000	1.000	1.009	1.015	1.010	1.011	1.008	1.005	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2009	1.125	0.974	0.970	0.988	1.031	1.010	0.995	1.000	0.975	1.000	0.992	0.935	1.135	1.000	1.000	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2010	0.886	0.950	0.912	1.001	0.981	1.000	0.974	1.023	0.918	1.021	0.991	1.000	1.000	1.000	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2011	1.126	1.138	0.990	1.312	1.043	1.000	1.005	1.009	1.027	0.964	1.000	1.001	1.000	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2012	1.075	0.851	1.037	0.721	1.037	0.995	1.000	1.000	0.848	1.000	1.000	1.000	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.005	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2013	0.916	1.273	1.078	1.013	1.113	1.093	0.988	1.064	1.092	1.000	1.000	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.005	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2014	1.190	0.875	1.022	0.977	1.008	0.995	1.000	1.055	1.136	0.988	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2015	1.137	0.675	0.868	0.864	0.557	1.000	1.010	1.013	1.000	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2016	2.647	1.049	1.127	1.090	1.008	1.113	1.017	1.010	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2017	1.426	0.834	1.167	1.000	1.054	1.000	0.987	1.041	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2018	0.984	1.088	0.984	1.138	1.000	1.014	1.001	1.041	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2019	1.509	1.109	1.138	1.033	1.000	1.010	1.014	1.041	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2020	1.001	1.000	0.771	0.938	1.022	1.010	1.014	1.041	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2021	1.000	2.389	1.222	1.041	1.022	1.010	1.014	1.041	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2022	7.967	1.084	1.116	1.041	1.022	1.010	1.014	1.041	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2023	1.384	1.069	1.116	1.041	1.022	1.010	1.014	1.041	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2024	1.774	1.069	1.116	1.041	1.022	1.010	1.014	1.041	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
RT	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	
1994																																	
1995	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	
1996	53,531,139	48,776,750	49,837,130	49,438,093	52,751,133	55,738,400	57,091,011	58,374,751	57,572,080	56,351,499	56,390,045	56,178,171	57,573,591	58,243,019	59,977,750	60,770,892	61,688,933	63,784,470	65,150,173	65,977,889	66,350,337	66,410,154	67,147,101	67,248,319	67,888,932	68,380,793	69,238,446	69,920,762	69,920,762	69,920,762	69,920,762	69,920,762	
1997	3,623,255	5,056,762	5,645,295	6,559,804	7,389,942	7,593,854	7,617,322	7,270,502	7,018,575	7,225,243	7,931,591	7,826,924	7,979,809	8,072,414	8,391,881	8,488,892	8,504,323	8,633,879	8,636,397	8,738,364	8,670,098	8,791,796	8,900,508	8,793,515	8,827,197	8,							

Year	Development Period in Months																																			
	12-23	24-26	26-28	28-30	30-32	32-34	34-36	36-38	38-40	40-42	42-44	44-46	46-48	48-50	50-52	52-54	54-56	56-58	58-60	60-62	62-64	64-66	66-68	68-70	70-72	72-74	74-76	76-78	78-80	80-82	82-84	84-86	86-88	88-90	90-92	
1994																																				
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	3.677	1.000	1.321	1.000	1.000	1.000	1.000	0.939	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1996	0.991	1.001	0.991	1.024	1.024	1.001	1.001	0.986	0.975	1.004	0.996	1.019	1.016	1.030	1.013	1.015	1.034	1.021	1.013	1.009	1.004	1.011	1.002	1.002	1.006	1.011	1.009	1.010	1.008	1.011	1.009	1.010	1.010	1.010	1.010	
1997	1.396	1.116	1.162	1.127	1.038	1.033	0.954	0.965	1.029	1.098	0.987	1.020	1.012	1.040	1.012	1.002	1.015	1.000	1.012	0.992	1.014	1.012	0.988	1.004	1.008	1.011	1.009	1.011	1.008	1.011	1.009	1.010	1.010	1.010	1.010	
1998	1.204	1.386	1.084	1.038	1.045	0.968	1.004	1.048	1.012	1.016	1.052	1.024	1.027	1.042	1.012	1.001	1.040	1.005	0.996	1.022	1.016	0.999	0.996	0.999	1.001											
1999	1.388	1.027	0.939	1.053	0.966	0.914	0.966	1.021	1.015	1.012	1.011	1.048	1.002	0.997	0.991	1.000	1.023	0.977	1.010	0.996	1.024	1.007	1.013	0.996	1.009											
2000	1.144	1.133	1.038	0.914	0.926	1.063	1.055	1.053	1.020	0.993	0.996	1.031	1.010	1.012	1.023	1.018	1.007	1.029	1.013	1.008	1.020	0.997	0.981	1.012												
2001	0.887	1.044	0.845	0.979	0.876	1.081	1.085	1.101	1.045	0.957	1.025	1.000	0.983	0.951	1.003	1.019	1.002	1.300	1.041	0.975	0.973	1.003	0.999	0.990												
2002	1.056	0.963	0.912	0.932	1.005	1.041	0.917	1.018	1.185	1.082	0.991	0.981	1.010	1.074	1.000	0.999	1.001	0.990	0.979	1.000	1.000	1.000														
2003	0.768	1.061	0.829	0.946	0.999	1.044	0.979	1.036	1.062	1.015	1.033	0.999	1.018	0.960	1.011	1.000	0.994	1.018	1.017	0.998	1.000															
2004	0.792	0.965	1.015	1.055	0.994	0.990	0.960	1.022	0.990	0.965	1.018	0.990	1.034	1.125	1.046	1.000	1.004	1.000	1.115	0.980																
2005	0.913	0.960	1.098	0.882	1.011	0.876	1.016	1.012	1.006	0.990	1.012	0.991	1.008	1.016	1.000	1.000	0.987	1.000	1.000																	
2006	0.767	0.851	0.950	1.035	0.886	0.992	1.000	1.000	1.000	1.000	0.889	1.332	1.000	1.173	1.000	1.000	1.000	1.142	1.134																	
2007	0.911	1.068	1.001	0.914	1.102	1.090	1.075	1.047	0.964	1.000	1.030	1.026	1.000	1.039	1.003	0.987	0.994																			
2008	0.755	0.932	0.985	1.262	1.008	1.025	0.999	1.000	0.961	1.000	1.084	1.037	1.000	0.990	1.000	1.000																				
2009	1.125	0.974	0.970	0.998	1.031	1.010	0.995	1.000	0.975	1.000	0.992	0.935	1.135	1.000	1.000																					
2010	0.696	0.950	0.912	1.001	0.981	1.000	0.974	1.023	0.918	1.021	0.991	1.000	1.000	1.000																						
2011	1.126	1.158	0.990	1.312	1.043	1.000	1.005	1.009	1.027	0.964	1.000	1.001	1.000																							
2012	1.075	0.951	1.037	0.721	1.037	0.995	1.000	1.000	0.848	1.000	1.000	1.000																								
2013	0.916	1.273	1.078	1.013	1.113	1.093	0.988	1.084	1.092	1.000	1.000																									
2014	1.190	0.875	1.022	0.977	1.008	0.995	1.000	1.055	1.136	0.988																										
2015	1.517	0.675	0.868	0.864	0.527	1.000	1.000	1.000	1.000																											
2016	2.647	1.049	1.127	1.090	1.008	1.113	1.017	1.010																												
2017	1.426	0.814	1.167	1.000	1.054	1.000	0.987																													
2018	0.948	1.088	0.986	1.318	1.000	1.000																														
2019	1.509	1.000	1.198	1.033	1.000																															
2020	1.001	1.000	0.771	0.938																																
2021	1.000	2.289	1.222																																	
2022	7.967	1.084																																		
2023	1.394																																			
VOL WTD 3	2.973	1.132	1.041	1.340	1.017	1.048	1.006	1.025	1.104	0.996	1.000	1.001	1.039	0.997	1.002	0.998	1.009	1.017	1.040	0.992	1.001	0.997	0.997	1.000	1.004	1.011	1.009	1.010	1.000					#DIV/0!		
VOL WTD 5	1.774	1.091	1.057	1.094	0.987	1.035	1.000	1.041	1.050	0.989	0.997	0.995	1.018	1.033	1.001	0.998	1.019	1.008	1.009	1.036	1.017	0.999	0.995	1.001	1.005	1.011	1.009	1.010	1.000					#DIV/0!		
VOL WTD ALL	1.010	1.009	1.009	1.041	1.022	1.010	1.014	1.009	0.998	1.013	1.005	1.020	1.014	1.029	1.012	1.010	1.034	1.015	1.010	1.011	1.010	1.006	0.999	1.001	1.005	1.011	1.009	1.010	1.000					NA		
ARITH 3	2.454	1.458	1.061	1.200	1.018	1.038	1.001	1.021	1.076	0.996	1.000	1.000	1.045	0.997	1.001	0.996	1.041	1.045	1.044	0.993	1.001	0.999	1.002	0.998	1.005	1.005	1.011	1.004	1.005	1.000					NA	
ARITH 5	2.574	1.292	1.068	1.078	0.924	1.022	0.999	1.030	1.021	0.995	0.996	0.994	1.027	1.041	1.001	0.997	1.034	1.028	1.017	1.004	1.009	1.000	0.998	1.000	1.005	1.011	1.004	1.005	1.000					NA		
ARITH ALL	1.361	1.058	1.007	1.003	0.989	1.013	1.003	1.141	1.008	1.026	1.004	1.023	1.013	1.031	1.005	1.002	1.046	1.018	1.012	1.003	1.009	1.003	0.998	1.000	1.005	1.011	1.004	1.005	1.000					NA		
5 YR HI LO	1.301	1.058	1.116	1.041	1.003	1.000	0.996	1.021	1.040	0.996	0.997	1.000	1.000	1.013	1.000	1.000	1.014	1.006	0.998	0.993	1.008	0.999	0.991	1.001	1.005	1.006	1.004					NA		NA		
7 YR HI LO	1.266	1.044	1.069	1.007	1.014	1.018	0.999	1.019	1.002	0.998	1.004	1.013	1.002	1.037	1.036	1.003	1.000	1.037	1.018	1.004	0.999	1.011	1.003	0.995	1.001	1.006	1.004	NA				NA		NA		
ALL YR HI LO	1.341	1.025	1.008	1.023	1.005	1.001	1.007	1.013	1.006	1.010	1.009	1.026	1.006	1.002	1.008	1.000	1.002	1.028	1.010	1.004	0.999	1.008	1.013	0.995	1.001	1.006	1.004	NA				NA		NA		
SELECTED	1.774	1.069	1.116	1.041	1.002	1.010	1.014	1.041	1.021	1.013	1.005	1.013	1.009	1.033	1.006	1.002	1.009	1.015	1.010	1.011	1.008	1.006	1.000	1.000	1.004	1.000	1.000					261	1.000			

[illegible]

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial UST
Determination of Pure Premium

(1)	(2)	(3)	(4)	(5)	(6)
<u>RY</u>	<u>PAID LDM</u> <u>ULTIMATE</u>	<u>INC LDM</u> <u>ULTIMATE</u>	<u>SELECTED</u> <u>ULTIMATE</u>	<u>POTENTIAL</u> <u>SITES</u>	<u>PURE</u> <u>PREMIUM</u>
1994					
1995					
1996					
1997					
1998					
1999					
2000					
2001					
2002					
2003					
2004					
2005					
2006					
2007					
2008	705,588	750,817	728,202	12,021	61
2009	945,295	868,654	906,974	12,003	76
2010	823,409	883,257	853,333	11,973	71
2011	1,772,862	1,963,944	1,868,403	11,936	157
2012	305,720	341,748	323,734	11,915	27
2013	1,773,023	1,536,070	1,654,546	11,887	139
2014	1,101,924	988,848	1,045,386	11,853	88
2015	171,340	123,477	147,409	11,834	12
2016	1,266,657	1,444,858	1,355,757	11,810	115
2017	1,102,288	802,487	952,387	11,790	81
2018	1,185,359	975,159	1,080,259	11,776	92
2019	636,240	682,965	659,603	11,759	56
2020	258,212	331,250	294,731	11,745	25
2021	228,622	246,589	237,605	11,735	20
2022	689,636	981,307	835,471	11,727	71
2023	676,430	397,859	537,145	11,718	46
2024	449,132	701,085	575,108	11,712	49
TOTAL	14,091,737	14,020,371	14,056,054	201,194	70

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
UST Remedial Claims
Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<u>RY</u>	<u>POTENTIAL SITES</u>	<u>PROJECTED PURE PREM</u>	<u>TRENDED PURE PREM</u>	<u>DETRENDED PURE PREM</u>	<u>EXPECTED LOSSES</u>	<u>PERCENT UNPAID</u>	<u>EXPECTED UNPAID</u>	<u>PAID LOSSES</u>	<u>INDICATED ULTIMATE</u>	<u>INCURRED LOSSES</u>	<u>IBNR RESERVE</u>	<u>CASE RESERVE</u>	<u>ULTIMATE PURE PREM</u>
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	12,021	61	40	62	743,356	22.2%	165,074	705,588	870,662	705,588	165,074	-	72
2009	12,003	76	51	60	722,904	24.7%	178,379	712,041	890,419	815,042	75,378	103,001	74
2010	11,973	71	49	59	702,310	27.1%	190,106	578,782	768,888	823,409	(54,521)	244,627	64
2011	11,936	157	111	57	681,898	29.4%	200,809	1,135,081	1,335,889	1,772,862	(436,973)	637,781	112
2012	11,915	27	20	56	662,963	31.5%	209,046	305,720	514,766	305,720	209,046	-	43
2013	11,887	139	104	54	644,172	33.2%	214,185	1,183,499	1,397,684	1,356,966	40,718	173,467	118
2014	11,853	88	68	53	625,594	35.2%	220,081	714,272	934,353	869,123	65,231	154,851	79
2015	11,834	12	10	51	608,318	37.5%	227,873	107,157	335,030	107,158	227,872	1	28
2016	11,810	115	93	50	591,268	39.7%	234,950	763,329	998,279	1,228,556	(230,276)	465,227	85
2017	11,790	81	67	49	574,887	43.9%	252,232	618,660	870,891	655,198	215,693	36,539	74
2018	11,776	92	78	47	559,244	47.6%	266,327	620,860	887,187	784,953	102,234	164,093	75
2019	11,759	56	49	46	543,887	52.3%	284,497	303,436	587,932	544,232	43,700	240,796	50
2020	11,745	25	23	45	529,086	56.6%	299,462	106,211	405,673	258,212	147,461	152,001	35
2021	11,735	20	19	44	514,862	63.3%	325,963	83,880	409,842	184,642	225,201	100,762	35
2022	11,727	71	68	43	501,106	72.2%	361,968	191,485	553,454	658,237	(104,783)	466,751	47
2023	11,718	46	45	42	487,675	87.5%	426,838	84,385	511,223	249,601	261,622	165,216	44
2024	11,712	49	49	41	474,726	97.2%	461,648	12,373	474,021	248,002	226,019	235,629	40
TOTAL	201,194				10,168,257		4,519,436	8,226,757	12,746,193	11,567,499	1,178,694	3,340,742	63

<u>Pure Premium Selection</u>	Trend =	0.974
3-Year Average x Latest		44
5-Year Average x Latest		41
All Year Average x Latest		56
Selected Pure Premium		41

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
UST Remedial Claims
Incurred Bornhuetter-Ferguson Method

(1) RY	(2) POTENTIAL SITES	(3) PROJECTED PURE PREM	(4) TRENDED PURE PREM	(5) DETRENDED PURE PREM	(6) EXPECTED LOSSES	(7) PERCENT IBNR	(8) EXPECTED IBNR	(9) INCURRED LOSSES	(10) INDICATED ULTIMATE	(11) PAID LOSSES	(12) UNPAID LOSS	(13) CASE RESERVE	(14) ULTIMATE PURE PREM
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	12,021	61	40	62	743,356	6.0%	44,779	705,588	750,367	705,588	44,779	-	62
2009	12,003	76	51	60	722,904	6.2%	44,617	815,042	859,658	712,041	147,618	103,001	72
2010	11,973	71	49	59	702,310	6.8%	47,587	823,409	870,996	578,782	292,214	244,627	73
2011	11,936	157	111	57	681,898	9.7%	66,345	1,772,862	1,839,207	1,135,081	704,127	637,781	154
2012	11,915	27	20	56	662,963	10.5%	69,891	305,720	375,611	305,720	69,891	-	32
2013	11,887	139	104	54	644,172	11.7%	75,110	1,356,966	1,432,075	1,183,499	248,577	173,467	120
2014	11,853	88	68	53	625,594	12.1%	75,744	869,123	944,867	714,272	230,595	154,851	80
2015	11,834	12	10	51	608,318	13.2%	80,395	107,158	187,553	107,157	80,396	1	16
2016	11,810	115	93	50	591,268	15.0%	88,515	1,228,556	1,317,071	763,329	553,742	465,227	112
2017	11,790	81	67	49	574,887	18.4%	105,515	655,198	760,713	618,660	142,054	36,539	65
2018	11,776	92	78	47	559,244	19.5%	109,081	784,953	894,034	620,860	273,174	164,093	76
2019	11,759	56	49	46	543,887	20.3%	110,482	544,232	654,714	303,436	351,278	240,796	56
2020	11,745	25	23	45	529,086	22.0%	116,660	258,212	374,872	106,211	268,661	152,001	32
2021	11,735	20	19	44	514,862	25.1%	129,342	184,642	313,984	83,880	230,104	100,762	27
2022	11,727	71	68	43	501,106	32.9%	164,976	658,237	823,213	191,485	631,728	466,751	70
2023	11,718	46	45	42	487,675	37.3%	181,727	249,601	431,328	84,385	346,943	165,216	37
2024	11,712	49	49	41	474,726	64.6%	306,796	248,002	554,798	12,373	542,425	235,629	47
TOTAL	201,194				10,168,257		1,817,563	11,567,499	13,385,062	8,226,757	5,158,305	3,340,742	67

<u>Pure Premium Selection</u>		Trend =	0.974
3-Year Average x Latest	44		
5-Year Average x Latest	41		
All Year Average x Latest	56		
Selected Pure Premium	41		

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance Act
Summary of Paid Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
RT	PAID LDM ULTIMATE	PAID LOSS	INCURRED LOSS	CASE RESERVE	IBNR RESERVE	UNPAID LOSS
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-
1998	478,042	478,042	478,042	-	-	-
1999	2,689,230	2,532,831	2,689,230	156,399	-	156,399
2000	1,195,793	1,195,793	1,195,793	-	-	-
2001	6,690,365	6,253,097	6,690,365	437,868	-	437,868
2002	2,309,328	1,994,064	2,309,328	315,264	-	315,264
2003	1,607,917	1,432,117	1,607,917	175,800	-	175,800
2004	3,424,778	2,780,056	3,424,778	644,722	-	644,722
2005	2,153,485	1,762,598	2,153,485	390,888	-	390,888
2006	2,228,883	2,044,448	2,228,883	184,435	-	184,435
2007	1,173,608	1,173,608	1,173,608	-	-	-
2008	581,362	581,362	581,362	-	-	-
2009	1,011,974	923,112	963,112	40,000	48,862	88,862
2010	1,434,006	933,528	1,434,006	500,478	-	500,478
2011	1,467,447	1,208,783	1,467,447	258,663	-	258,663
2012	2,885,739	2,449,027	2,572,226	123,199	313,513	436,712
2013	1,284,725	1,046,421	1,262,213	215,793	22,512	238,304
2014	844,706	195,732	844,706	648,974	-	648,974
2015	1,688,085	1,265,343	1,688,085	418,742	-	418,742
2016	2,432,608	1,411,117	2,432,608	1,021,491	-	1,021,491
2017	4,475,724	2,531,175	4,475,724	1,944,549	-	1,944,549
2018	3,361,668	1,912,756	3,221,353	1,308,597	140,315	1,448,912
2019	6,368,225	3,258,411	4,795,400	1,538,988	1,377,836	2,909,814
2020	1,926,788	861,719	1,707,075	845,356	218,714	1,065,069
2021	5,052,793	1,874,323	3,334,726	1,460,403	1,718,067	3,178,470
2022	3,472,186	959,231	2,453,496	1,494,265	1,018,680	2,512,955
2023	3,792,919	703,696	1,776,677	1,077,981	2,016,242	3,089,233
2024	5,877,833	388,229	1,355,742	967,512	4,527,091	5,489,603
TOTAL	71,710,817	44,154,621	60,317,986	16,163,366	11,392,831	27,556,197

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance ASIT
Selection of Loss Development Factors

RY	Development Period in Months																														
	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - 96	96 - 108	108 - 120	120 - 132	132 - 144	144 - 156	156 - 168	168 - 180	180 - 192	192 - 204	204 - 216	216 - 228	228 - 240	240 - 252	252 - 264	264 - 276	276 - 288	288 - 300	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372	
1994																															
1995																															
1996																															
1997																															
1998		1.000	1.000		1.000	1.000	1.000	1.000	4.669	2.231	2.058	1.148	1.066	1.091	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1999	15.900	1.244	2.319	1.021	1.004	1.011	1.041	1.014	1.085	1.078	1.058	1.037	1.005	1.016	1.000	1.124	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2000	1.761	1.262	1.034	1.014	1.018	1.108	1.028	1.038	1.083	1.014	1.013	1.025	1.001	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2001	1.541	1.087	1.075	1.093	1.050	1.021	1.028	1.099	1.106	1.029	1.019	1.041	1.029	1.094	1.027	1.021	1.029	1.018	1.002	1.012	1.009	1.011	1.008	1.012	1.006	1.000	1.000	1.000	1.000	1.000	
2002	10.706	2.111	1.228	1.161	1.078	1.049	1.133	1.134	1.168	1.017	1.019	1.010	1.052	1.053	1.024	1.009	1.061	1.009	1.017	1.025	1.003	1.042									
2003	3.306	1.453	1.561	1.192	1.187	1.117	1.043	1.129	1.051	1.067	1.192	1.050	1.041	1.048	1.064	1.064	1.030	1.010	1.000	1.014	1.000										
2004	3.116	1.474	1.254	1.298	1.343	1.122	1.032	1.102	1.122	1.044	1.055	1.050	1.020	1.011	1.008	1.012	1.024	1.006	1.000												
2005	11.692	1.138	1.099	1.080	1.052	1.048	1.018	1.026	1.008	1.008	1.017	1.032	1.094	1.026	1.007	1.002	1.011	1.013	1.028												
2006	4.502	1.556	1.611	1.283	1.183	1.035	1.111	1.026	1.092	1.151	1.063	1.076	1.033	1.035	1.040	1.013	1.009	1.024													
2007	3.306	1.594	1.127	1.341	1.099	1.033	1.053	1.050	1.036	1.016	1.021	1.020	1.000	1.000	1.000	1.000	1.000														
2008	2.474	1.276	1.351	1.168	1.027	1.067	1.100	1.125	1.050	1.023	1.021	1.008	1.015	1.004	1.000	1.000															
2009	10.467	1.861	1.934	1.065	1.456	1.254	1.238	1.223	1.089	1.081	1.048		1.009	1.021	1.000																
2010	4.034	1.182	1.691	1.078	1.324	1.134	1.340	1.062	1.386	1.075	1.132	1.132	1.013	1.033																	
2011	3.325	1.526	1.081	1.124	1.092	1.068	1.074	1.053	1.046	1.001	1.022	1.040	1.264																		
2012	1.608	1.402	1.175	1.175	1.088	1.109	1.113	1.079	1.045	1.024	1.018	1.011																			
2013	3.828	1.585	1.391	1.080	1.118	1.066	1.007	1.023	1.036	1.008	1.002																				
2014	1.000	6.122	3.305	1.209	1.485	1.019	1.292	1.019	1.151	1.154																					
2015	4.922	1.606	1.295	1.461	1.159	1.453	1.301	1.098	1.005																						
2016	3.887	1.284	1.170	1.170	1.171	1.054	1.070	1.073																							
2017	5.527	1.708	1.328	1.185	1.093	1.053		1.062																							
2018	3.795	1.505	1.208	1.292	1.295	1.078																									
2019	2.265	1.347	1.192	1.118	1.163																										
2020	3.694	1.560	1.207																												
2021	191.102	1.924	1.210																												
2022	4.778	1.563																													
2023	1.520																														
VOL WTD 3	3.551	1.723	1.201	1.170	1.168	1.062	1.111	1.081	1.027	1.026	1.015	1.041	1.099	1.021	1.000	1.007	1.008	1.014	1.008	1.011	1.008	1.014	1.008	1.000	1.000	1.000	NA	NA	NA	NA	
VOL WTD 5	2.925	1.542	1.228	1.174	1.168	1.101	1.097	1.070	1.037	1.028	1.033	1.038	1.063	1.021	1.014	1.008	1.016	1.012	1.015	1.006	1.006	1.011	1.008	1.000	1.000	1.000	NA	NA	NA	NA	
VOL WTD ALL	2.809	1.413	1.254	1.152	1.128	1.076	1.074	1.084	1.047	1.089	1.036	1.042	1.026	1.034	1.029	1.018	1.015	1.012	1.005	1.006	1.011	1.008	1.000	1.000	1.000	NA	NA	NA	NA		
ARITH 3	45.800	1.682	1.203	1.194	1.183	1.062	1.144	1.063	1.064	1.062	1.014	1.061	1.096	1.019	1.000	1.004	1.007	1.015	1.009	1.013	1.005	1.017	1.004	1.000	1.000	1.000	NA	NA	NA	NA	
ARITH 5	28.672	1.580	1.229	1.187	1.176	1.132	1.146	1.058	1.057	1.053	1.044	1.047	1.060	1.019	1.010	1.005	1.015	1.013	1.015	1.008	1.003	1.010	1.003	1.000	1.000	1.000	NA	NA	NA	NA	
ARITH ALL	9.762	1.655	1.406	1.164	1.158	1.091	1.104	1.072	1.090	1.130	1.125	1.047	1.047	1.029	1.020	1.023	1.016	1.010	1.009	1.006	1.002	1.010	1.003	1.000	1.000	1.000	NA	NA	NA	NA	
5 YR HI LO	1.543	1.379	1.209	1.176	1.164	1.062	1.141	1.058	1.043	1.036	1.029	1.031	1.012	1.019	1.002	1.005	1.015	1.011	1.015	1.005	1.001	1.003	1.000	1.000	1.000	NA	NA	NA	NA	NA	
7 YR HI LO	4.012	1.536	1.223	1.206	1.181	1.072	1.122	1.058	1.073	1.042	1.026	1.038	1.033	1.019	1.011	1.007	1.019	1.013	1.009	1.003	1.001	1.003	1.000	1.000	1.000	NA	NA	NA	NA	NA	
ALL YR HI LO	4.868	1.489	1.343	1.158	1.150	1.077	1.097	1.068	1.097	1.054	1.068	1.042	1.033	1.026	1.014	1.014	1.012	1.009	1.008	1.003	1.001	1.003	1.000	1.000	1.000	NA	NA	NA	NA	TAIL	
SELECTED	2.809	1.489	1.343	1.206	1.181	1.077	1.122	1.074	1.097	1.047	1.033	1.042	1.033	1.026	1.014	1.014	1.019	1.015	1.012	1.011	1.008	1.003	1.008	1.002	1.001	1.000	1.000	1.000	1.000	1.028	

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance ASIT
Paid Losses

RY	Development in Months																																			
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372					
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1998	-	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	16,713	
1999	34,176	548,408	676,196	1,567,972	1,601,529	1,608,182	1,625,584	1,692,876	1,717,189	1,863,780	2,008,296	2,125,717	2,204,155	2,214,424	2,250,269	2,250,269	2,529,597	2,529,597	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	2,532,094	
2000	370,129	651,957	822,756	850,390	862,198	877,375	971,906	999,462	1,037,135	1,123,070	1,139,298	1,154,165	1,182,661	1,184,428	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	
2001	1,334,709	2,056,418	2,236,236	2,404,395	2,628,060	2,739,085	2,817,623	2,896,871	3,183,541	3,519,096	3,621,500	4,489,112	4,874,733	4,876,595	5,018,442	5,488,008	5,630,087	5,757,861	5,925,597	6,031,763	6,045,530	6,116,687	6,109,987	6,253,097	6,109,987	6,253,097	6,109,987	6,253,097	6,109,987	6,253,097	6,109,987	6,253,097	6,109,987	6,253,097		
2002	25,391	271,845	373,933	704,799	818,350	881,841	924,693	1,047,264	1,187,136	1,386,044	1,456,815	1,464,223	1,479,159	1,556,347	1,638,004	1,677,022	1,692,921	1,796,372	1,812,290	1,861,975	1,900,066	1,913,096	1,994,064													
2003	55,198	182,491	265,162	413,872	493,384	585,783	665,773	694,461	783,706	823,855	878,721	1,047,401	1,100,227	1,145,541	1,200,282	1,276,743	1,358,101	1,398,792	1,412,642	1,412,642	1,432,117	1,432,117														
2004	154,438	481,188	709,451	889,323	1,154,237	1,550,136	1,738,876	1,795,147	1,978,584	2,219,493	2,316,258	2,443,349	2,565,442	2,616,804	2,645,562	2,666,495	2,698,686	2,762,524	2,780,056	2,780,056	2,780,056	2,780,056														
2005	76,161	890,444	1,033,676	1,114,425	1,203,629	1,266,271	1,326,703	1,392,155	1,385,185	1,396,276	1,407,470	1,433,885	1,477,051	1,616,331	1,657,857	1,670,265	1,673,598	1,691,931	1,714,527	1,740,598																
2006	60,491	272,313	423,641	682,375	875,535	1,035,779	1,072,081	1,190,682	1,221,925	1,334,084	1,534,980	1,631,669	1,755,125	1,812,291	1,876,290	1,951,782	1,977,382	1,995,945	2,044,448																	
2007	107,082	353,965	564,316	635,862	832,470	936,817	967,505	1,018,844	1,069,756	1,108,422	1,116,553	1,150,527	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608															
2008	76,453	189,175	241,351	325,529	380,673	391,046	417,098	458,918	516,229	541,900	554,141	565,941	570,718	579,066	581,362	581,362	581,362	581,362	581,362	581,362	581,362															
2009	6,274	65,671	122,193	236,292	251,768	366,562	459,776	569,158	696,182	758,059	819,677	858,838	896,129	904,524	923,112	923,112																				
2010	25,118	101,319	119,772	202,531	218,274	289,061	327,938	439,479	466,760	646,920	695,674	787,662	891,779	903,292	933,528																					
2011	105,665	351,316	535,992	579,582	651,347	711,550	705,749	815,994	858,956	898,414	895,616	919,162	955,996	1,208,763																						
2012	492,662	792,235	1,110,684	1,305,178	1,533,202	1,668,186	1,849,816	2,059,499	2,222,469	2,323,261	2,380,133	2,422,544	2,449,027																							
2013	89,198	341,477	541,380	753,022	813,524	909,739	970,104	977,192	999,814	1,036,131	1,044,234	1,046,421																								
2014	3,119	3,119	19,091	61,186	74,003	109,866	111,997	144,666	147,359	169,547	195,731																									
2015	35,104	172,789	277,518	359,484	525,069	608,686	884,338	1,150,455	1,263,610	1,269,343																										
2016	145,829	566,906	727,719	851,131	995,600	1,165,875	1,228,997	1,314,960	1,411,117																											
2017	139,537	771,285	1,317,458	1,749,609	2,072,429	2,264,234	2,384,230	2,531,175																												
2018	153,788	583,697	878,341	1,060,851	1,370,309	1,774,133	1,912,756																													
2019	689,496	1,561,490	2,102,629	2,507,017	2,802,620	3,258,411																														
2020	105,627	390,166	608,554	794,769																																
2021	6,140	805,000	1,548,565	1,874,323																																
2022	128,434	613,647	959,231																																	
2023	463,090	703,696																																		
2024	388,229																																			

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance AST
Summary of Incurred Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
YR	INCLD M ULTIMATE	PAID LOSS	INCURRED LOSS	CASE RESERVE	IBNR RESERVE	UNPAID LOSS
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-
1998	478,042	478,042	478,042	-	-	-
1999	2,689,230	2,532,831	2,689,230	156,399	-	156,399
2000	1,195,793	1,195,793	1,195,793	-	-	-
2001	6,690,965	6,353,097	6,690,965	437,868	-	437,868
2002	2,309,328	1,994,064	2,309,328	315,264	-	315,264
2003	1,607,917	1,432,117	1,607,917	175,800	-	175,800
2004	3,434,778	2,780,056	3,434,778	644,722	-	644,722
2005	2,153,485	1,762,598	2,153,485	390,888	-	390,888
2006	2,228,883	2,044,448	2,228,883	184,435	-	184,435
2007	1,175,608	1,175,608	1,175,608	-	-	-
2008	581,934	581,362	581,362	-	571	571
2009	975,155	923,112	963,112	40,000	12,043	52,043
2010	1,451,538	933,528	1,434,006	500,478	17,512	518,410
2011	1,502,806	1,208,783	1,467,447	258,663	35,359	294,022
2012	2,647,068	2,449,027	2,572,226	123,199	74,841	198,040
2013	1,354,133	1,046,421	1,362,213	215,793	91,530	307,712
2014	918,767	195,732	844,706	648,974	74,061	723,036
2015	1,847,975	1,269,343	1,688,085	418,742	159,889	578,631
2016	2,741,255	1,411,117	2,432,608	1,021,491	308,646	1,330,137
2017	5,523,657	2,531,175	4,475,724	1,944,549	1,047,933	2,992,482
2018	4,051,797	1,912,756	3,221,353	1,308,597	830,444	2,139,041
2019	6,280,103	3,258,411	4,795,400	1,536,988	2,494,704	3,031,692
2020	2,411,485	861,719	1,707,075	845,356	704,411	1,545,766
2021	4,960,492	1,874,323	3,334,726	1,480,403	1,625,765	3,086,169
2022	4,025,789	953,231	2,453,496	1,494,265	1,572,293	3,066,558
2023	3,383,168	703,696	1,776,677	1,072,881	1,508,491	2,581,472
2024	3,349,471	388,229	1,355,742	967,512	1,993,730	2,961,242
TOTAL	71,871,020	44,154,621	60,317,986	16,163,366	11,553,033	27,716,399

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance ASIT
Selection of Loss Development Factors

RV	Development Period in Months																														
	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - 96	96 - 108	108 - 120	120 - 132	132 - 144	144 - 156	156 - 168	168 - 180	180 - 192	192 - 204	204 - 216	216 - 228	228 - 240	240 - 252	252 - 264	264 - 276	276 - 288	288 - 300	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372	
1994																															
1995																															
1996																															
1997																															
1998	0.919	1.000	1.000	1.000	1.000	1.000	1.000	1.000	5.060	1.000	1.000	1.000	0.941	0.860	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1999	2.823	1.728	1.311	1.028	1.000	1.002	1.000	1.223	1.011	1.020	1.017	0.999	0.985	1.000	1.000	1.050	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2000	0.962	1.129	1.031	0.939	0.956	1.047	1.016	1.044	1.052	1.000	1.000	0.998	1.001	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2001	1.249	1.030	0.860	0.957	1.024	1.053	1.037	1.158	1.088	1.030	1.145	1.020	1.010	1.065	1.015	1.050	1.005	1.014	0.990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2002	1.400	0.975	0.747	0.999	1.094	1.051	0.969	1.000	0.961	1.006	1.000	1.208	0.910	1.031	0.994	1.073	1.000	0.978	1.000	0.991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2003	1.007	0.827	1.143	1.042	1.096	1.030	1.030	1.011	1.061	1.240	0.987	1.006	0.967	0.960	1.071	0.986	0.997	0.967	1.000	0.988	1.109										
2004	1.017	1.163	1.104	1.447	1.013	1.039	1.007	1.279	1.013	0.998	0.994	0.994	0.998	0.988	1.018	1.008	1.016	0.995	1.000	1.160											
2005	0.924	1.035	1.032	0.955	1.137	1.030	1.011	0.988	1.000	1.002	1.000	1.208	1.077	1.004	0.969	1.000	1.000	1.000	1.000	1.017											
2006	1.741	1.117	1.068	1.045	1.040	1.074	1.037	1.282	0.879	1.057	1.033	1.025	1.016	1.019	1.000	0.996	1.000	1.012													
2007	0.990	0.996	0.948	0.914	1.000	1.099	1.009	0.999	0.954	1.000	1.001	0.983	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2008	1.200	1.023	0.966	1.026	1.127	1.000	1.000	1.083	0.941	1.000	1.017	1.000	1.000	0.985	1.000	1.000															
2009	1.279	1.001	1.295	1.058	1.133	1.003	1.000	1.184	0.977	1.021	1.000	0.978	1.000	0.981	1.000																
2010	0.567	1.112	1.246	1.147	1.203	1.000	1.032	1.197	1.287	1.000	1.126	1.163	1.000	1.000																	
2011	1.092	1.390	0.942	0.989	1.006	1.023	1.038	1.145	1.049	1.000	1.000	1.103	1.183																		
2012	1.145	1.406	0.953	1.053	1.078	1.053	1.058	0.995	0.995	0.983	1.005	1.009																			
2013	1.186	1.007	1.090	1.038	0.971	1.031	1.000	1.102	1.005	0.978	1.000																				
2014	5.046	0.919	1.039	1.000	0.981	1.000	1.000	1.023	0.995	1.000																					
2015	1.533	0.993	1.033	1.548	0.987	1.118	1.153	1.009	1.000																						
2016	1.667	1.154	1.165	0.995	1.110	1.000	1.000	1.343																							
2017	2.319	1.027	1.185	1.010	1.199	1.000																									
2018	1.078	1.126	1.096	1.207	1.002	1.147																									
2019	1.322	1.111	1.074	1.013	1.037																										
2020	1.194	1.267	1.022	1.035																											
2021	1.291	1.053	1.139																												
2022	1.331	1.191																													
2023	1.399																														
VOL WTD 3	1.331	1.144	1.086	1.070	1.083	1.045	1.029	1.152	1.001	0.985	1.003	1.110	1.062	0.991	1.000	0.998	1.000	1.002	1.006	1.064	1.015	1.000	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	NA
VOL WTD 5	1.312	1.130	1.110	1.045	1.077	1.050	1.023	1.094	1.006	0.989	1.019	1.079	1.042	1.002	0.991	1.002	1.004	0.992	0.998	1.030	1.011	1.000	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	NA
VOL WTD ALL	1.301	1.100	1.042	1.050	1.056	1.041	1.020	1.121	1.029	1.016	1.033	1.050	1.005	1.011	1.007	1.026	1.003	1.000	0.999	1.024	1.011	1.000	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	NA
ARITH 3	1.340	1.070	1.079	1.085	1.080	1.049	1.051	1.125	1.000	0.987	1.002	1.158	1.061	0.989	1.000	0.999	1.000	1.002	1.006	1.046	1.036	1.000	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	NA
ARITH 5	1.307	1.149	1.103	1.052	1.067	1.053	1.031	1.094	1.009	0.992	1.026	1.091	1.037	0.997	0.994	1.001	1.003	0.990	1.001	1.028	1.022	1.000	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	NA
ARITH ALL	1.449	1.111	1.062	1.065	1.054	1.037	1.000	1.109	1.241	1.018	1.020	1.060	1.006	0.991	1.006	1.035	1.002	0.996	1.001	1.020	1.018	1.000	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	NA
5 YR HI LO	1.314	1.143	1.103	1.039	1.050	1.039	1.000	1.044	1.000	0.994	1.002	1.037	1.000	0.995	1.000	1.000	1.000	0.991	1.000	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	NA
7 YR HI LO	1.307	1.127	1.101	1.053	1.024	1.040	1.019	1.095	1.009	0.997	1.005	1.024	1.019	0.996	1.004	1.001	1.001	0.997	1.000	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	NA
ALL YR HI LO	1.336	1.097	1.095	1.048	1.052	1.033	1.015	1.102	1.024	1.006	1.014	1.042	1.000	0.997	1.003	1.012	1.001	0.998	1.000	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	NA
SELECTED	1.336	1.127	1.103	1.053	1.077	1.043	1.019	1.095	1.029	1.006	1.014	1.042	1.005	1.011	1.000	1.012	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance ASIT
Incurred Losses

Year	Development in Months																															
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324					
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
1998	127,001	116,714	116,714	116,714	116,714	116,714	116,714	116,714	590,611	590,611	590,611	590,611	555,611	478,042	478,042	478,042	478,042	478,042	478,042	478,042	478,042	478,042	478,042	478,042	478,042	478,042	478,042	478,042				
1999	308,314	870,343	1,504,209	1,971,983	2,027,051	2,026,436	2,030,044	2,030,044	2,482,580	2,510,580	2,561,027	2,603,820	2,601,196	2,561,795	2,561,795	2,561,795	2,561,795	2,689,230	2,689,230	2,689,230	2,689,230	2,689,230	2,689,230	2,689,230	2,689,230	2,689,230	2,689,230	2,689,230				
2000	1,026,004	986,880	1,114,568	1,148,569	1,078,568	1,030,942	1,079,607	1,097,163	1,145,515	1,205,440	1,205,440	1,205,440	1,202,646	1,201,928	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793	1,195,793					
2001	3,289,000	4,108,645	4,213,509	3,642,391	3,484,058	3,566,802	3,756,792	3,895,867	4,511,171	4,910,015	4,958,003	5,677,151	5,790,979	5,849,503	6,277,944	6,118,643	6,612,090	6,664,686	6,756,186	6,690,965	6,690,965	6,690,965	6,690,965	6,690,965	6,690,965	6,690,965	6,690,965					
2002	1,797,008	2,516,405	2,433,720	1,881,500	1,882,500	2,004,966	2,106,208	2,041,447	2,041,647	1,961,513	1,972,513	1,972,513	2,381,937	2,167,740	2,214,818	2,221,133	2,382,845	2,382,845	2,380,982	2,380,982	2,380,982	2,380,982	2,380,982	2,380,982	2,380,982	2,380,982	2,380,982					
2003	1,020,098	1,027,589	849,418	970,556	1,011,191	1,108,245	1,141,783	1,175,610	1,188,633	1,261,406	1,563,735	1,542,848	1,552,847	1,501,010	1,441,010	1,543,256	1,520,985	1,516,742	1,466,741	1,466,741	1,449,461	1,607,917										
2004	1,126,617	1,145,722	1,132,467	1,471,549	2,129,824	2,157,171	2,341,962	2,257,589	2,888,114	2,925,815	2,920,815	2,902,227	2,885,920	2,880,127	2,846,805	2,896,847	2,921,054	2,966,831	2,953,221	2,953,221	2,953,221	3,424,778										
2005	1,543,485	1,425,516	1,475,649	1,522,726	1,454,148	1,653,394	1,671,214	1,688,897	1,668,486	1,668,486	1,672,486	1,672,486	2,033,809	2,175,022	2,184,707	2,117,185	2,117,185	2,117,185	2,117,185	2,117,185	2,117,185	2,117,185										
2006	674,273	1,174,072	1,310,933	1,399,553	1,462,786	1,521,109	1,634,236	1,694,721	2,173,374	1,909,874	2,018,289	2,085,285	2,138,100	2,172,164	2,212,418	2,212,418	2,203,318	2,203,318	2,203,318	2,203,318	2,203,318	2,203,318										
2007	1,238,240	1,225,463	1,220,733	1,156,901	1,127,089	1,127,090	1,238,935	1,250,577	1,249,903	1,192,870	1,192,870	1,194,026	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608	1,173,608										
2008	415,004	497,948	505,298	492,059	504,948	509,232	569,232	569,232	636,446	580,293	580,153	590,261	590,261	590,261	581,362	581,362	581,362	581,362	581,362	581,362	581,362	581,362										
2009	426,280	545,273	545,773	706,544	747,814	847,182	849,952	849,952	1,006,233	982,683	1,003,653	1,003,653	981,649	981,649	981,649	981,649	981,649	981,649	981,649	981,649	981,649	981,649										
2010	542,005	307,495	341,816	426,049	488,528	587,710	587,710	606,228	725,760	933,806	933,806	1,051,870	1,434,006	1,434,006	1,434,006	1,434,006	1,434,006	1,434,006	1,434,006	1,434,006	1,434,006	1,434,006										
2011	620,290	677,052	941,166	896,347	876,177	881,632	901,896	935,803	1,071,755	1,124,802	1,124,802	1,124,802	1,340,103	1,467,447																		
2012	1,343,875	1,538,925	2,163,183	2,062,128	2,171,132	2,339,654	2,464,291	2,607,826	2,993,724	2,580,382	2,536,632	2,550,471	2,572,226																			
2013	860,008	1,020,291	1,027,875	1,120,854	1,163,773	1,130,369	1,165,331	1,165,331	1,284,396	1,290,963	1,262,213	1,262,213																				
2014	175,503	885,620	814,206	845,942	845,942	830,162	830,162	830,162	848,925	844,706																						
2015	540,144	827,915	821,797	848,986	1,314,585	1,297,946	1,450,916	1,673,552	1,688,085	1,688,085																						
2016	732,004	1,219,943	1,407,791	1,639,699	1,631,067	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869	1,810,869										
2017	1,308,176	3,034,614	3,117,194	3,693,863	3,731,363	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724	4,475,724										
2018	1,743,651	1,880,233	2,117,839	2,320,790	2,802,029	2,808,645	3,221,353																									
2019	2,899,183	3,827,313	4,250,591	4,565,470	4,624,173	4,795,400																										
2020	1,066,901	1,273,982	1,613,963	1,649,858	1,707,075																											
2021	2,154,103																															
2022	1,548,655																															
2023	1,270,005																															
2024	1,355,742																															

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance AST
Determination of Pure Premium

(1) <u>RY</u>	(2) <u>PAID LDM ULTIMATE</u>	(3) <u>INC LDM ULTIMATE</u>	(4) <u>SELECTED ULTIMATE</u>	(5) <u>POLICIES IN FORCE</u>	(6) <u>PURE PREMIUM</u>
1994					
1995					
1996					
1997					
1998					
1999					
2000					
2001					
2002					
2003					
2004					
2005					
2006					
2007					
2008	581,362	581,934	581,648	517	1,125
2009	1,011,974	975,155	993,564	563	1,765
2010	1,434,006	1,451,938	1,442,972	578	2,496
2011	1,467,447	1,502,806	1,485,126	810	1,833
2012	2,885,739	2,647,068	2,766,403	975	2,837
2013	1,284,725	1,354,133	1,319,429	1,003	1,315
2014	844,706	918,767	881,737	1,030	856
2015	1,688,085	1,847,975	1,768,030	1,021	1,732
2016	2,432,608	2,741,255	2,586,931	1,010	2,561
2017	4,475,724	5,523,657	4,999,691	1,005	4,975
2018	3,361,668	4,051,797	3,706,732	999	3,710
2019	6,168,225	6,290,103	6,229,164	989	6,298
2020	1,926,788	2,411,485	2,169,137	978	2,218
2021	5,052,793	4,960,492	5,006,643	965	5,188
2022	3,472,186	4,025,789	3,748,987	942	3,980
2023	3,792,919	3,285,168	3,539,044	914	3,872
2024	5,877,833	3,349,471	4,613,652	892	5,172
TOTAL	47,758,788	47,918,991	47,838,889	15,191	3,149

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance AST
Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
RY	<u>POLICIES</u> <u>IN FORCE</u>	<u>PROJECTED</u> <u>PURE PREM</u>	<u>TRENDED</u> <u>PURE PREM</u>	<u>DETRENDED</u> <u>PURE PREM</u>	<u>EXPECTED</u> <u>LOSSES</u>	<u>PERCENT</u> <u>UNPAID</u>	<u>EXPECTED</u> <u>UNPAID</u>	<u>PAID</u> <u>LOSSES</u>	<u>INDICATED</u> <u>ULTIMATE</u>	<u>INCURRED</u> <u>LOSSES</u>	<u>IBNR</u> <u>RESERVE</u>	<u>CASE</u> <u>RESERVE</u>	<u>ULTIMATE</u> <u>PURE PREM</u>
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	517	1,125	1,921	2,732	1,412,517	10.0%	141,091	581,362	722,453	581,362	141,091	-	1,397
2009	563	1,765	2,914	2,825	1,590,494	11.2%	178,885	923,112	1,101,997	963,112	138,885	40,000	1,957
2010	578	2,496	3,987	2,921	1,688,387	12.5%	211,017	933,528	1,144,545	1,434,006	(289,460)	500,478	1,980
2011	810	1,833	2,832	3,020	2,446,526	14.7%	360,424	1,208,783	1,569,208	1,467,447	101,761	258,663	1,937
2012	975	2,837	4,238	3,123	3,045,018	17.4%	530,680	2,449,027	2,979,707	2,572,226	407,481	123,199	3,056
2013	1,003	1,315	1,900	3,229	3,238,969	20.8%	672,120	1,046,421	1,718,541	1,262,213	456,328	215,793	1,713
2014	1,030	856	1,196	3,339	3,439,249	23.3%	801,885	195,732	997,617	844,706	152,911	648,974	969
2015	1,021	1,732	2,340	3,453	3,525,110	26.8%	944,440	1,269,343	2,213,783	1,688,085	525,698	418,742	2,168
2016	1,010	2,561	3,347	3,570	3,605,694	33.3%	1,199,597	1,411,117	2,610,715	2,432,608	178,106	1,021,491	2,585
2017	1,005	4,975	6,287	3,691	3,709,831	37.9%	1,405,203	2,531,175	3,936,379	4,475,724	(539,346)	1,944,549	3,917
2018	999	3,710	4,535	3,817	3,813,064	44.6%	1,702,123	1,912,756	3,614,879	3,221,353	393,525	1,308,597	3,618
2019	989	6,298	7,445	3,947	3,903,241	48.6%	1,897,068	3,258,411	5,155,480	4,795,400	360,080	1,536,988	5,213
2020	978	2,218	2,535	4,081	3,991,062	56.5%	2,254,392	861,719	3,116,110	1,707,075	1,409,036	845,356	3,186
2021	965	5,188	5,736	4,220	4,071,904	63.9%	2,602,275	1,874,323	4,476,598	3,334,726	1,141,871	1,460,403	4,639
2022	942	3,980	4,255	4,363	4,109,998	73.1%	3,005,260	959,231	3,964,491	2,453,496	1,510,996	1,494,265	4,209
2023	914	3,872	4,004	4,511	4,123,419	81.9%	3,379,087	703,696	4,082,784	1,776,677	2,306,106	1,072,981	4,467
2024	892	5,172	5,172	4,665	4,160,990	93.6%	3,893,587	388,229	4,281,817	1,355,742	2,926,075	967,512	4,800
TOTAL	15,191				55,875,472		25,179,135	22,507,966	47,687,101	36,365,957	11,321,144	13,857,991	3,139

<u>Pure Premium Selection</u>	Trend =	1.034
3-Year Average Ex. Latest		4,665
5-Year Average Ex. Latest		4,795
All Year Average Ex. Latest		3,717
Selected Pure Premium		4,665

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Insurance AST
Incurred Bornhuetter-Ferguson Method

(1) RY	(2) <u>POLICIES IN FORCE</u>	(3) <u>PROJECTED PURE PREM</u>	(4) <u>TRENDED PURE PREM</u>	(5) <u>DETRENDED PURE PREM</u>	(6) <u>EXPECTED LOSSES</u>	(7) <u>PERCENT IBNR</u>	(8) <u>EXPECTED IBNR</u>	(9) <u>INCURRED LOSSES</u>	(10) <u>INDICATED ULTIMATE</u>	(11) <u>PAID LOSSES</u>	(12) <u>UNPAID LOSS</u>	(13) <u>CASE RESERVE</u>	(14) <u>ULTIMATE PURE PREM</u>
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	517	1,125	1,921	2,732	1,412,517	0.1%	1,387	581,362	582,749	581,362	1,387	-	1,127
2009	563	1,765	2,914	2,825	1,590,494	1.2%	19,643	963,112	982,755	923,112	59,643	40,000	1,746
2010	578	2,496	3,987	2,921	1,688,387	1.2%	20,852	1,434,006	1,454,858	933,528	521,330	500,478	2,517
2011	810	1,833	2,832	3,020	2,446,526	2.4%	57,564	1,467,447	1,525,010	1,208,783	316,227	258,663	1,883
2012	975	2,837	4,238	3,123	3,045,018	2.8%	86,093	2,572,226	2,658,319	2,449,027	209,292	123,199	2,726
2013	1,003	1,315	1,900	3,229	3,238,969	6.8%	219,864	1,262,213	1,482,077	1,046,421	435,656	215,793	1,478
2014	1,030	856	1,196	3,339	3,439,249	8.1%	277,235	844,706	1,121,941	195,732	926,210	648,974	1,089
2015	1,021	1,732	2,340	3,453	3,525,110	8.7%	304,997	1,688,085	1,993,083	1,269,343	723,739	418,742	1,952
2016	1,010	2,561	3,347	3,570	3,605,694	11.3%	405,976	2,432,608	2,838,584	1,411,117	1,427,467	1,021,491	2,810
2017	1,005	4,975	6,287	3,691	3,709,831	19.0%	703,819	4,475,724	5,179,543	2,531,175	2,648,368	1,944,549	5,154
2018	999	3,710	4,535	3,817	3,813,064	20.5%	781,514	3,221,353	4,002,867	1,912,756	2,090,111	1,308,597	4,007
2019	989	6,298	7,445	3,947	3,903,241	23.8%	927,519	4,795,400	5,722,918	3,258,411	2,464,507	1,536,988	5,787
2020	978	2,218	2,535	4,081	3,991,062	29.2%	1,165,815	1,707,075	2,872,890	861,719	2,011,171	845,356	2,938
2021	965	5,188	5,736	4,220	4,071,904	32.8%	1,334,537	3,334,726	4,669,263	1,874,323	2,794,940	1,460,403	4,839
2022	942	3,980	4,255	4,363	4,109,998	39.1%	1,605,181	2,453,496	4,058,677	959,231	3,099,446	1,494,265	4,309
2023	914	3,872	4,004	4,511	4,123,419	45.9%	1,893,401	1,776,677	3,670,078	703,696	2,966,382	1,072,981	4,015
2024	892	5,172	5,172	4,665	4,160,990	59.5%	2,476,776	1,355,742	3,832,517	388,229	3,444,288	967,512	4,297
TOTAL	15,191				55,875,472		12,282,172	36,365,957	48,648,129	22,507,966	26,140,163	13,857,991	3,202

<u>Pure Premium Selection</u>	Trend =	1.034
3-Year Average Ex. Latest		4,665
5-Year Average Ex. Latest		4,795
All Year Average Ex. Latest		3,717
Selected Pure Premium		4,665

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AS3
Summary of Paid Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
BY	PAID LDM	PAID	INCURRED	CASE	IBNR	UNPAID
ULTIMATE	LOSS	LOSS	RESERVE	RESERVE	LOSS	
1994	-	-	-	-	-	-
1995	106,826	106,826	106,826	-	-	-
1996	109,456	109,456	109,456	-	-	-
1997	-	-	-	-	-	-
1998	662,628	662,628	662,628	-	-	-
1999	1,741,560	1,499,337	1,741,560	242,223	-	242,223
2000	6,136,838	4,737,540	6,136,838	1,399,298	-	1,399,298
2001	2,258,986	1,716,797	2,258,986	542,189	-	542,189
2002	239,493	239,493	239,493	-	-	-
2003	555,224	555,224	555,224	-	-	-
2004	2,074,609	1,937,099	2,074,609	137,511	-	137,511
2005	79,838	79,838	79,838	-	-	-
2006	-	-	-	-	-	-
2007	41,750	41,750	41,750	-	-	-
2008	51,787	51,787	51,787	-	-	-
2009	183,657	183,657	183,657	-	-	-
2010	-	-	-	-	-	-
2011	-	-	-	-	-	-
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	-	-	-	-	-
2015	155,510	155,510	155,510	-	-	-
2016	-	-	-	-	-	-
2017	59,359	59,359	59,359	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
2020	61,158	61,158	61,158	-	-	-
2021	75,000	17,593	75,000	57,407	-	57,407
2022	-	-	-	-	-	-
2023	-	-	-	-	-	-
2024	-	-	-	-	-	-
TOTAL	14,593,680	12,215,062	14,593,680	2,378,627	-	2,378,627

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AST
Selection of Loss Development Factors

RY	Development Period in Months																														
	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - 96	96 - 108	108 - 120	120 - 132	132 - 144	144 - 156	156 - 168	168 - 180	180 - 192	192 - 204	204 - 216	216 - 228	228 - 240	240 - 252	252 - 264	264 - 276	276 - 288	288 - 300	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372	
1994																															
1995							2.144	1.250	1.102	1.016	1.278	1.153	1.000	1.048	1.141	1.010	1.042	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1996										1.967	1.516	1.030	1.000	1.104	1.620	1.057	1.109	1.113	1.009	1.011	1.055	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1997																															
1998		2.879	1.306	1.090	1.020	1.000	1.056	1.070	1.037	1.019	1.055	1.046	1.006	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.040	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1999	1.701	2.649	1.129	1.235	1.136	1.319	1.105	1.061	1.055	1.049	1.055	1.024	1.016	1.002	1.007	1.007	1.005	1.032	1.041	1.027	1.006	1.000	1.031	1.012	1.000						
2000	1.962	1.171	1.107	1.048	1.046	1.070	1.068	1.150	1.105	1.047	1.036	1.019	1.040	1.028	1.016	1.035	1.216	1.066	1.049	1.028	1.049	1.033	1.007	1.028							
2001			7.454	2.965	2.645	1.350	1.237	1.305	1.137	1.164	1.109	1.073	1.141	1.052	1.205	1.093	1.118	1.050	1.028	1.039	1.142	1.047	1.096								
2002		4.517	2.551	1.086	1.086	1.000	1.038	1.904	1.113	1.019	1.000	1.065	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
2003	1.224	1.255	1.000	1.000	1.000	1.317	1.736	1.067	1.029	1.286	1.111	1.054	1.071	1.053	1.010	1.061	1.044	1.000	1.000	1.000	1.000										
2004		3.475	1.113	1.759	1.221	1.157	1.322	1.092	1.254	1.712	1.027	1.055	1.028	1.066	1.053	1.028	1.000	1.051	1.000	1.000											
2005		1.493	1.622	1.000		1.316	1.173	1.302	1.079	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000												
2006																															
2007		2.517	1.169	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000												
2008		1.226	1.100	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000													
2009			1.105	1.340	1.052	1.375	1.089	1.347	1.098	1.122	1.000	1.000	1.000	1.000	1.000																
2010																															
2011																															
2012																															
2013																															
2014																															
2015		2.167	1.222	1.092	1.000	1.000	1.000	1.000	1.000																						
2016																															
2017	1.233	1.115	1.000	1.000	1.000	1.000	1.000																								
2018																															
2019																															
2020				1.072																											
2021			1.470																												
2022																															
2023																															
VOL WTD 3	NA	NA	1.360	1.072	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	1.000	1.000	1.000	1.000	1.000	1.049	1.000	1.000	1.089	1.035	1.030	1.022	1.000	1.000	1.000	1.000	1.000	1.000	NA
VOL WTD 5	NA	NA	1.173	1.035	1.000	1.000	1.000	1.000	1.000	NA	1.000	1.000	1.000	1.000	1.000	1.026	1.009	1.034	1.009	1.020	1.052	1.029	1.028	1.021	1.000	1.000	1.000	1.000	1.000	1.000	NA
VOL WTD ALL	1.824	1.535	1.169	1.142	1.097	1.131	1.133	1.136	1.100	1.155	1.049	1.037	1.038	1.032	1.042	1.033	1.097	1.046	1.028	1.020	1.047	1.029	1.027	1.021	1.000	1.000	1.000	1.000	1.000	1.000	NA
ARITH 3	NA	NA	1.400	1.072	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.047	1.027	1.045	1.013	1.000	1.000	1.000	1.000	1.000	1.000	
ARITH 5	NA	NA	1.267	1.036	1.000	1.000	1.000	1.000	1.000	NA	1.000	1.000	1.000	1.000	1.007	1.011	1.013	1.006	1.013	1.039	1.024	1.034	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
ARITH ALL	1.583	2.224	1.712	1.261	1.148	1.136	1.214	1.179	1.072	1.185	1.051	1.040	1.023	1.028	1.081	1.024	1.051	1.031	1.013	1.012	1.031	1.017	1.023	1.008	1.000	1.000	1.000	1.000	1.000	1.000	NA
5 YR HI LO	NA	NA	1.329	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.009	1.018	1.024	1.019	1.006	1.000	1.000	1.000	1.000	1.000	1.000	NA
7 YR HI LO	NA	NA	1.275	1.072	NA	NA	NA	NA	NA	NA	1.000	1.000	1.000	1.000	1.002	1.007	1.011	1.025	1.014	1.011	1.014	1.018	1.010	1.004	1.000	1.000	1.000	1.000	1.000	1.000	NA
ALL YR HI LO	1.576	2.092	1.325	1.142	1.080	1.126	1.155	1.129	1.061	1.130	1.061	1.033	1.015	1.023	1.039	1.020	1.039	1.025	1.010	1.009	1.018	1.015	1.010	1.004	1.000	1.000	1.000	1.000	1.000	1.000	NA
SELECTED	1.824	2.092	1.325	1.142	1.148	1.131	1.133	1.136	1.100	1.155	1.049	1.037	1.038	1.032	1.042	1.033	1.039	1.025	1.014	1.011	1.018	1.015	1.010	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.076

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AST
Paid Losses

RY	Development in Months																															
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1995	-	-	-	-	-	-	-	19,155	41,156	51,445	56,701	57,626	73,664	84,921	84,921	88,971	101,542	102,511	106,826	106,826	106,826	106,826	106,826	106,826	106,826	106,826	106,826	106,826	106,826	106,826	106,826	
1996	-	-	-	-	-	-	-	-	-	-	14,203	27,940	42,359	43,615	43,615	48,148	77,977	82,406	91,416	101,779	102,681	103,782	109,456	109,456	109,456	109,456	109,456	109,456	109,456	109,456	109,456	
1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1998	-	113,506	326,771	426,734	465,016	474,091	474,091	500,870	536,142	555,872	566,448	597,852	625,365	629,249	636,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	635,092	
1999	91,601	155,804	412,759	466,204	575,644	653,770	862,519	953,244	1,011,272	1,067,094	1,119,362	1,181,084	1,209,850	1,229,249	1,232,121	1,241,346	1,250,602	1,294,320	1,335,943	1,390,883	1,428,204	1,437,060	1,437,060	1,437,060	1,437,060	1,437,060	1,437,060	1,437,060	1,437,060	1,437,060	1,437,060	
2000	600,543	1,178,120	1,380,065	1,527,820	1,601,730	1,675,915	1,792,516	1,914,991	2,202,232	2,433,794	2,547,274	2,638,146	2,687,862	2,795,225	2,873,605	2,920,207	3,022,541	3,675,996	3,920,130	4,111,183	4,225,970	4,432,029	4,577,720	4,609,460	4,737,540	4,737,540	4,737,540	4,737,540	4,737,540	4,737,540	4,737,540	
2001	-	-	4,285	31,943	94,057	192,393	250,731	321,220	419,351	476,821	555,214	615,741	660,726	753,773	792,848	955,109	1,043,903	1,166,740	1,225,467	1,260,270	1,309,174	1,495,557	1,566,522	1,716,797	1,716,797	1,716,797	1,716,797	1,716,797	1,716,797	1,716,797	1,716,797	
2002	-	7,498	33,870	86,415	92,333	100,309	100,309	104,163	198,304	220,667	224,817	224,817	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	239,493	
2003	75,879	92,879	116,529	116,529	116,529	116,529	153,490	266,468	284,207	292,415	376,033	417,688	440,376	471,503	496,493	501,430	532,032	555,224	555,224	555,224	555,224	555,224	555,224	555,224	555,224	555,224	555,224	555,224	555,224	555,224	555,224	
2004	-	48,087	167,082	185,942	327,157	399,428	462,288	611,344	667,682	837,489	1,433,954	1,473,129	1,554,162	1,598,045	1,703,105	1,792,711	1,843,534	1,843,534	1,937,099	1,937,099	1,937,099	1,937,099	1,937,099	1,937,099	1,937,099	1,937,099	1,937,099	1,937,099	1,937,099	1,937,099	1,937,099	
2005	9,181	16,467	24,568	39,884	39,884	52,405	61,585	74,021	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	79,838	
2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2007	-	14,192	35,720	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	41,750	
2008	-	38,408	47,087	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	51,787	
2009	-	-	47,443	52,422	70,244	73,919	101,655	110,661	149,107	163,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	183,657	
2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	-	53,789	116,564	142,401	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	155,510	
2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	43,180	53,255	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	59,359	
2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-	-	-	11,965	17,593	61,158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AST
Summary of Incurred Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)
RY	INC LDM ULTIMATE	PAID LOSS	INCURRED LOSS	CASE RESERVE	IBNR RESERVE	UNPAID LOSS
1994	-	-	-	-	-	-
1995	106,826	106,826	106,826	-	-	-
1996	109,456	109,456	109,456	-	-	-
1997	-	-	-	-	-	-
1998	662,628	662,628	662,628	-	-	-
1999	1,741,560	1,499,337	1,741,560	242,223	-	242,223
2000	6,136,838	4,717,540	6,136,838	1,399,298	-	1,399,298
2001	2,258,986	1,716,797	2,258,986	542,189	-	542,189
2002	239,493	239,493	239,493	-	-	-
2003	555,224	555,224	555,224	-	-	-
2004	2,074,609	1,937,059	2,074,609	137,511	-	137,511
2005	79,838	79,838	79,838	-	-	-
2006	-	-	-	-	-	-
2007	41,750	41,750	41,750	-	-	-
2008	51,787	51,787	51,787	-	-	-
2009	183,657	183,657	183,657	-	-	-
2010	-	-	-	-	-	-
2011	-	-	-	-	-	-
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	-	-	-	-	-
2015	177,456	155,510	155,510	-	21,946	21,946
2016	-	-	-	-	-	-
2017	70,934	59,359	59,359	-	11,575	11,575
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
2020	84,378	61,158	61,158	-	23,220	23,220
2021	103,872	17,593	75,000	57,407	28,872	86,279
2022	-	-	-	-	-	-
2023	-	-	-	-	-	-
2024	-	-	-	-	-	-
TOTAL	14,679,291	12,215,052	14,593,680	2,378,627	85,612	2,464,239

1994	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-1000
1995	1.000	1000000.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.067	1.000	1.000	1.000	1.085	1.291	1.096	0.988	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	0.231	1.000	1.000	2.313	1.000	1.000	1.000	0.286	1.000	1.079	1.260	1.000	1.000	1.000	1.505	1.058	1.085	1.000	1.108	1.000	0.913	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997																															
1998	1.062	2.451	1.173	0.998	1.460	1.000	0.738	0.814	0.872	1.015	1.047	0.920	1.000	0.988	1.000	1.000	1.000	1.000	1.000	1.000	1.110	1.000	0.940	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	2.490	0.658	1.022	1.103	1.251	0.943	1.026	1.041	1.044	0.966	1.024	1.015	1.000	0.944	1.015	1.000	1.023	1.012	1.015	1.000	0.990	1.121	1.000	1.046	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.181	1.060	1.072	1.000	0.993	1.022	1.108	1.244	1.054	0.991	1.172	0.992	0.996	1.049	1.007	0.943	0.981	1.000	1.000	1.000	0.981	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	1.476	1.429	0.813	0.967	0.918	1.055	1.079	1.081	1.132	0.972	0.916	1.008	0.934	1.172	0.987	0.990	1.069	1.009	1.000	1.102	1.033	1.030	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	3.261	0.902	0.742	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.949	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.004	1.181	1.031	1.114	1.298	1.110	0.988	1.110	0.951	1.000	0.832	1.147	1.000	1.000	1.000	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	0.860	3.207	0.981	1.000	0.999	1.000	1.121	0.977	1.540	1.142	1.031	1.000	1.000	1.022	1.120	0.997	1.000	1.000	1.000	1.000	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	0.922	0.888	1.000	0.974	1.119	1.000	1.367	0.872	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.995	0.997	1.000	1.000	1.000	0.995	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006																															
2007	0.860	1.000	0.485	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.990	0.992	0.995	0.997	1.000											

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AST
Selection of Loss Development Factors

BY	Development Period in Months																														
	12 - 24	24 - 36	36 - 48	48 - 60	60 - 72	72 - 84	84 - 96	96 - 108	108 - 120	120 - 132	132 - 144	144 - 156	156 - 168	168 - 180	180 - 192	192 - 204	204 - 216	216 - 228	228 - 240	240 - 252	252 - 264	264 - 276	276 - 288	288 - 300	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372	
1994																															
1995	1.000	100000.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.067	1.000	1.000	0.805	1.291	1.096	0.885	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1996	0.231	1.000	1.000	2.333	2.000	1.000	0.286	1.000	1.000	1.079	1.260	1.000	1.000	1.505	1.000	1.058	1.000	1.108	1.000	1.000	0.913	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1997																															
1998	1.062	2.451	1.173	0.998	1.460	1.000	0.738	0.814	0.872	1.015	1.047	0.920	1.000	0.988	1.000	1.000	1.000	1.000	1.000	1.000	1.110	1.000	0.940	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1999	2.490	0.658	1.022	1.103	1.251	0.943	1.026	1.041	1.044	0.966	1.024	1.015	1.000	0.964	1.015	1.000	1.023	1.012	1.055	1.000	0.990	1.121	1.000	1.046	1.000						
2000	1.181	1.060	1.072	1.020	0.993	1.022	1.108	1.020	1.244	1.054	0.991	1.172	0.992	0.996	1.049	1.007	1.043	0.983	0.981	1.069	1.000	1.000	1.000	1.088							
2001	1.476	1.429	0.813	0.967	0.918	1.050	1.079	1.009	1.081	1.132	0.972	1.016	1.008	0.934	1.172	0.987	0.990	1.069	1.009	1.100	1.102	1.033	1.030								
2002	1.261	0.902	0.742	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.949	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
2003	1.004	1.185	1.031	1.000	1.114	1.298	1.128	0.958	1.150	1.051	1.000	0.832	1.147	1.000	1.000	1.011	0.994	1.000	1.000	1.000	1.000	1.000									
2004	0.860	1.207	0.981	1.000	0.999	1.000	1.211	0.977	1.540	1.142	1.031	1.043	1.000	1.022	1.120	0.997	1.000	1.000	1.000	1.000	1.000										
2005	0.922	0.888	1.000	0.974	1.119	1.000	1.367	0.872	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2006																															
2007	0.860	1.000	0.485	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000												
2008	0.577	1.000	0.898	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000													
2009	1.000	2.119	1.000	1.000	1.000	1.346	1.260	1.000	1.000	1.022	1.000	1.000	1.000	1.000	1.000																
2010																															
2011																															
2012																															
2013																															
2014																															
2015	195789.070	1.000	1.000	0.794	1.000	1.000	1.000	1.000	1.000																						
2016																															
2017	1.314	0.904	1.000	1.000	1.000	1.000	1.000																								
2018																															
2019																															
2020	131700.000		1.000		0.503																										
2021	32000.000	2.344	1.000																												
2022																															
2023																															
VOL WTD 3	32000.000	1.280	1.000	0.503	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.072	1.009	1.007	1.072	1.000	1.000	1.000	1.000	1.000	NA	
VOL WTD 5	76850.000	1.280	1.000	0.666	1.000	1.000	1.000	1.000	1.000	NA	1.000	1.000	1.000	1.000	0.997	0.999	1.000	1.003	1.054	1.018	1.025	1.002	1.071	1.000	1.000	1.000	1.000	1.000	NA		
VOL WTD ALL	1.599	1.180	0.982	1.004	1.077	1.021	1.039	0.989	1.160	1.059	1.004	1.063	1.002	0.990	1.066	0.985	1.019	1.004	0.999	1.044	1.023	1.024	1.002	1.070	1.000	1.000	1.000	1.000	NA		
ARITH 3	32000.000	1.672	1.000	0.503	1.000	1.000	1.000	1.000	1.000	NA	NA	NA	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.034	1.011	1.010	1.045	1.000	1.000	1.000	1.000	1.000		
ARITH 5	76850.000	1.672	1.000	0.751	1.000	1.000	1.000	1.000	1.000	NA	1.000	1.000	1.000	1.000	0.999	0.999	1.000	1.002	1.034	1.019	1.031	0.995	1.033	1.000	1.000	1.000	1.000	1.000	NA		
ARITH ALL	20239.312	5883.656	0.954	1.043	1.124	1.044	1.014	0.976	1.072	1.041	1.025	1.000	0.996	1.015	1.074	0.958	1.004	1.017	1.005	1.019	1.014	1.022	0.995	1.027	1.000	1.000	1.000	1.000	NA		
5 YR HI LO	NA	NA	1.000	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.011	1.000	1.000	1.023	1.000	1.000	NA	NA	NA	NA	
7 YR HI LO	32000.000	1.000	1.000	0.794	NA	NA	NA	NA	NA	NA	1.000	1.000	1.000	1.000	0.999	0.999	1.000	1.002	1.014	1.026	1.008	1.000	1.015	1.000	1.000	1.000	NA	NA	NA	NA	
ALL YR HI LO	10247.834	1.433	0.971	0.990	1.072	1.029	1.042	0.985	1.047	1.038	1.009	0.999	1.000	0.997	1.041	0.989	1.001	1.010	1.001	1.010	1.015	1.007	1.000	1.015	1.000	1.000	NA	NA	NA	NA	
SELECTED	1.599	1.180	1.000	1.004	1.077	1.029	1.042	1.000	1.047	1.059	1.025	1.063	1.002	1.000	1.041	0.985	0.988	0.990	0.992	0.995	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AST
Determination of Pure Premium

(1) <u>RY</u>	(2) <u>PAID LDM ULTIMATE</u>	(3) <u>INC LDM ULTIMATE</u>	(4) <u>SELECTED ULTIMATE</u>	(5) <u>POTENTIAL SITES</u>	(6) <u>PURE PREMIUM</u>
1994					
1995					
1996					
1997					
1998					
1999					
2000					
2001					
2002					
2003					
2004					
2005					
2006					
2007					
2008	51,787	51,787	51,787	2,055	25
2009	183,657	183,657	183,657	2,051	90
2010	-	-	-	2,049	-
2011	-	-	-	2,044	-
2012	-	-	-	2,040	-
2013	-	-	-	2,040	-
2014	-	-	-	2,039	-
2015	155,510	177,456	166,483	2,038	82
2016	-	-	-	2,038	-
2017	59,359	70,934	65,146	2,037	32
2018	-	-	-	2,036	-
2019	-	-	-	2,036	-
2020	61,158	84,378	72,768	2,035	36
2021	75,000	103,872	89,436	2,034	44
2022	-	-	-	2,034	-
2023	-	-	-	2,034	-
2024	-	-	-	2,034	-
TOTAL	586,471	672,083	629,277	34,674	18

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AST
Paid Bornhuetter-Ferguson Method

(1) RY	(2) POTENTIAL SITES	(3) PROJECTED PURE PREM	(4) TRENDED PURE PREM	(5) DETTRENDED PURE PREM	(6) EXPECTED LOSSES	(7) PERCENT UNPAID	(8) EXPECTED UNPAID	(9) PAID LOSSES	(10) INDICATED ULTIMATE	(11) INCURRED LOSSES	(12) IBNR RESERVE	(13) CASE RESERVE	(14) ULTIMATE PURE PREM
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	2,055	25	35	17	35,070	18.8%	6,577	51,787	58,364	51,787	6,577	-	28
2009	2,051	90	121	17	35,702	21.4%	7,628	183,657	191,285	183,657	7,628	-	93
2010	2,049	-	-	18	36,380	24.5%	8,925	-	8,925	-	8,925	-	4
2011	2,044	-	-	18	37,017	26.9%	9,955	-	9,955	-	9,955	-	5
2012	2,040	-	-	18	37,684	29.6%	11,137	-	11,137	-	11,137	-	5
2013	2,040	-	-	19	38,438	32.1%	12,326	-	12,326	-	12,326	-	6
2014	2,039	-	-	19	39,187	35.2%	13,809	-	13,809	-	13,809	-	7
2015	2,038	82	98	20	39,951	43.9%	17,545	155,510	173,056	155,510	17,545	-	85
2016	2,038	-	-	20	40,750	49.0%	19,973	-	19,973	-	19,973	-	10
2017	2,037	32	37	20	41,545	55.1%	22,903	59,359	82,262	59,359	22,903	-	40
2018	2,036	-	-	21	42,355	60.4%	25,579	-	25,579	-	25,579	-	13
2019	2,036	-	-	21	43,202	65.0%	28,070	-	28,070	-	28,070	-	14
2020	2,035	36	39	22	44,044	69.5%	30,605	61,158	91,763	61,158	30,605	-	45
2021	2,034	44	47	22	44,903	73.3%	32,903	17,593	50,496	75,000	(24,504)	57,407	25
2022	2,034	-	-	23	45,801	79.8%	36,563	-	36,563	-	36,563	-	18
2023	2,034	-	-	23	46,717	90.4%	42,214	-	42,214	-	42,214	-	21
2024	2,034	-	-	23	47,652	94.7%	45,134	-	45,134	-	45,134	-	22
TOTAL	34,674				696,400		371,846	529,064	900,911	586,471	314,439	57,407	26

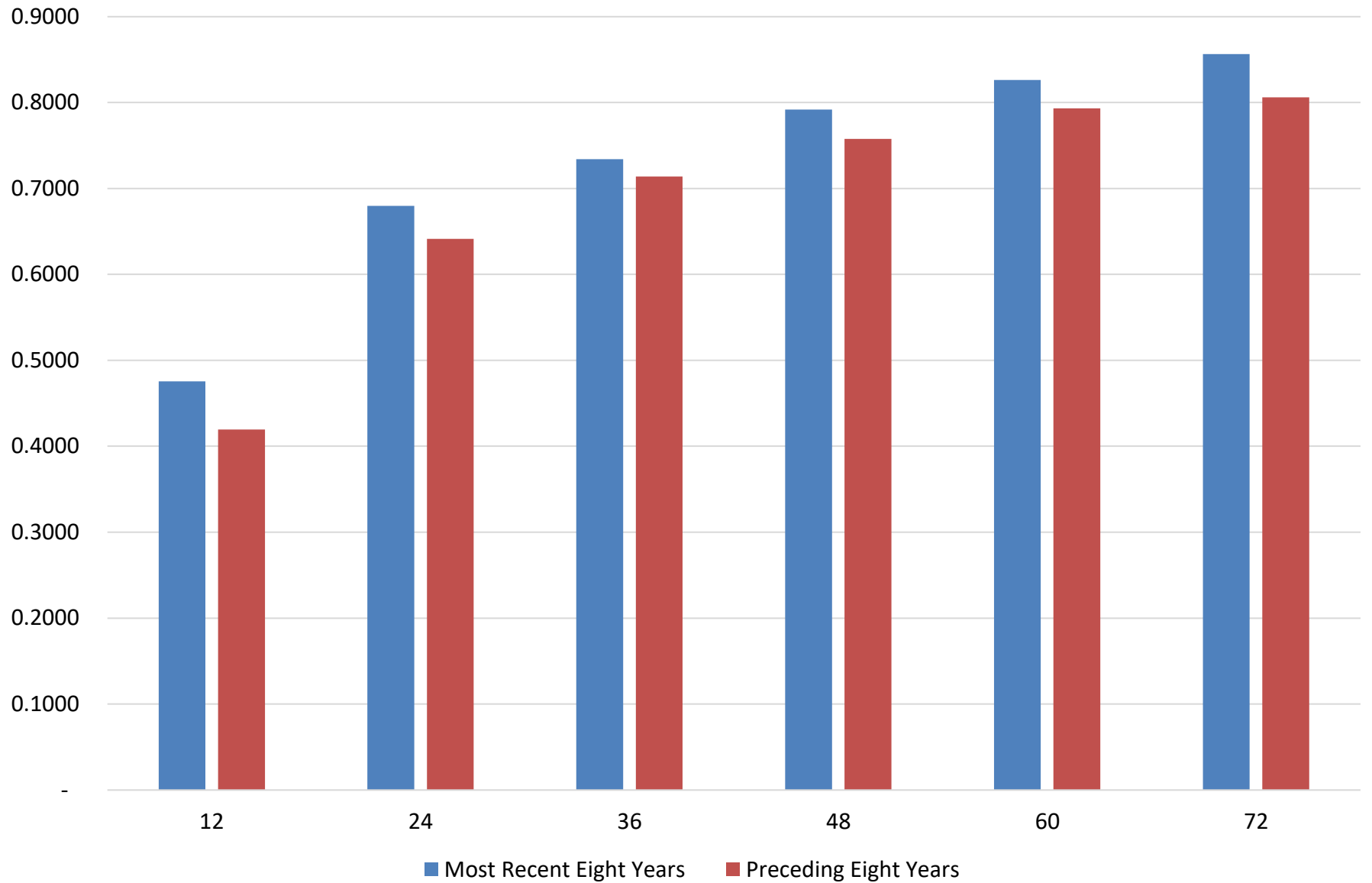
<u>Pure Premium Selection</u>		Trend =	1.020
3-Year Average x Latest	16		
5-Year Average x Latest	17		
All Year Average x Latest	23		
Selected Pure Premium	23		

Missouri Petroleum Storage Tank Insurance Fund
Reserve Study as of June 30, 2024
Remedial AST
Incurred Bornhuetter-Ferguson Method

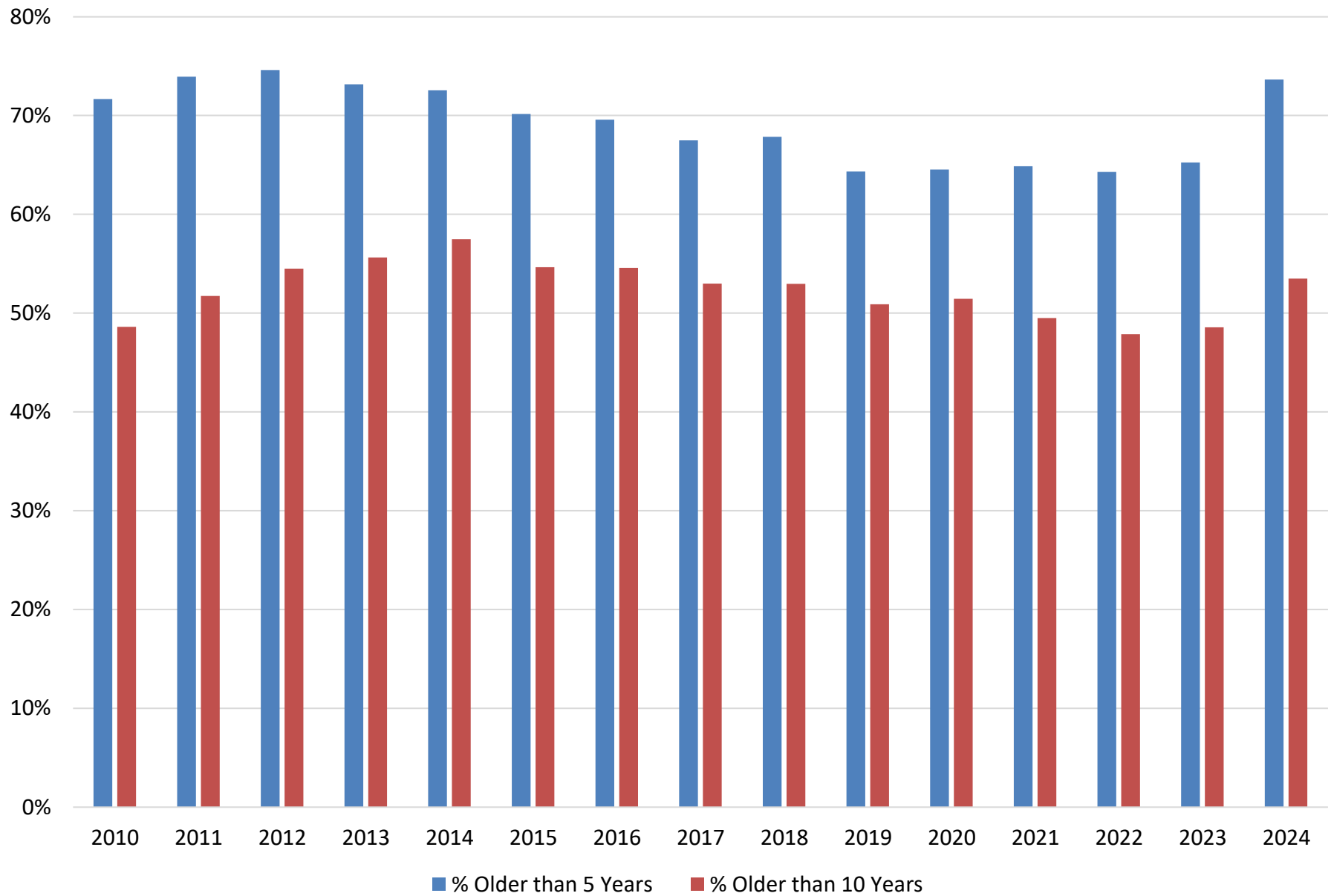
(1) RY	(2) POTENTIAL SITES	(3) PROJECTED PURE PREM	(4) TRENDED PURE PREM	(5) DETRENDED PURE PREM	(6) EXPECTED LOSSES	(7) PERCENT IBNR	(8) EXPECTED IBNR	(9) INCURRED LOSSES	(10) INDICATED ULTIMATE	(11) PAID LOSSES	(12) UNPAID LOSS	(13) CASE RESERVE	(14) ULTIMATE PURE PREM
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008	2,055	25	35	17	35,070	-3.8%	(1,350)	51,787	50,437	51,787	(1,350)	-	25
2009	2,051	90	121	17	35,702	-5.5%	(1,953)	183,657	181,704	183,657	(1,953)	-	89
2010	2,049	-	-	18	36,380	-1.3%	(478)	-	(478)	-	(478)	-	(0)
2011	2,044	-	-	18	37,017	-1.3%	(487)	-	(487)	-	(487)	-	(0)
2012	2,040	-	-	18	37,684	-1.1%	(423)	-	(423)	-	(423)	-	(0)
2013	2,040	-	-	19	38,438	4.9%	1,876	-	1,876	-	1,876	-	1
2014	2,039	-	-	19	39,187	7.2%	2,823	-	2,823	-	2,823	-	1
2015	2,038	82	98	20	39,951	12.4%	4,941	155,510	160,451	155,510	4,941	-	79
2016	2,038	-	-	20	40,750	16.3%	6,649	-	6,649	-	6,649	-	3
2017	2,037	32	37	20	41,545	16.3%	6,779	59,359	66,138	59,359	6,779	-	32
2018	2,036	-	-	21	42,355	19.7%	8,350	-	8,350	-	8,350	-	4
2019	2,036	-	-	21	43,202	22.0%	9,491	-	9,491	-	9,491	-	5
2020	2,035	36	39	22	44,044	27.5%	12,120	61,158	73,279	61,158	12,120	-	36
2021	2,034	44	47	22	44,903	27.8%	12,481	75,000	87,481	17,593	69,888	57,407	43
2022	2,034	-	-	23	45,801	27.8%	12,731	-	12,731	-	12,731	-	6
2023	2,034	-	-	23	46,717	38.8%	18,121	-	18,121	-	18,121	-	9
2024	2,034	-	-	23	47,652	61.7%	29,412	-	29,412	-	29,412	-	14
TOTAL	34,674				696,400		121,085	586,471	707,556	529,064	178,492	57,407	20

<u>Pure Premium Selection</u>	Trend =	1.020
3-Year Average x Latest		16
5-Year Average x Latest		17
All Year Average x Latest		23
Selected Pure Premium		23

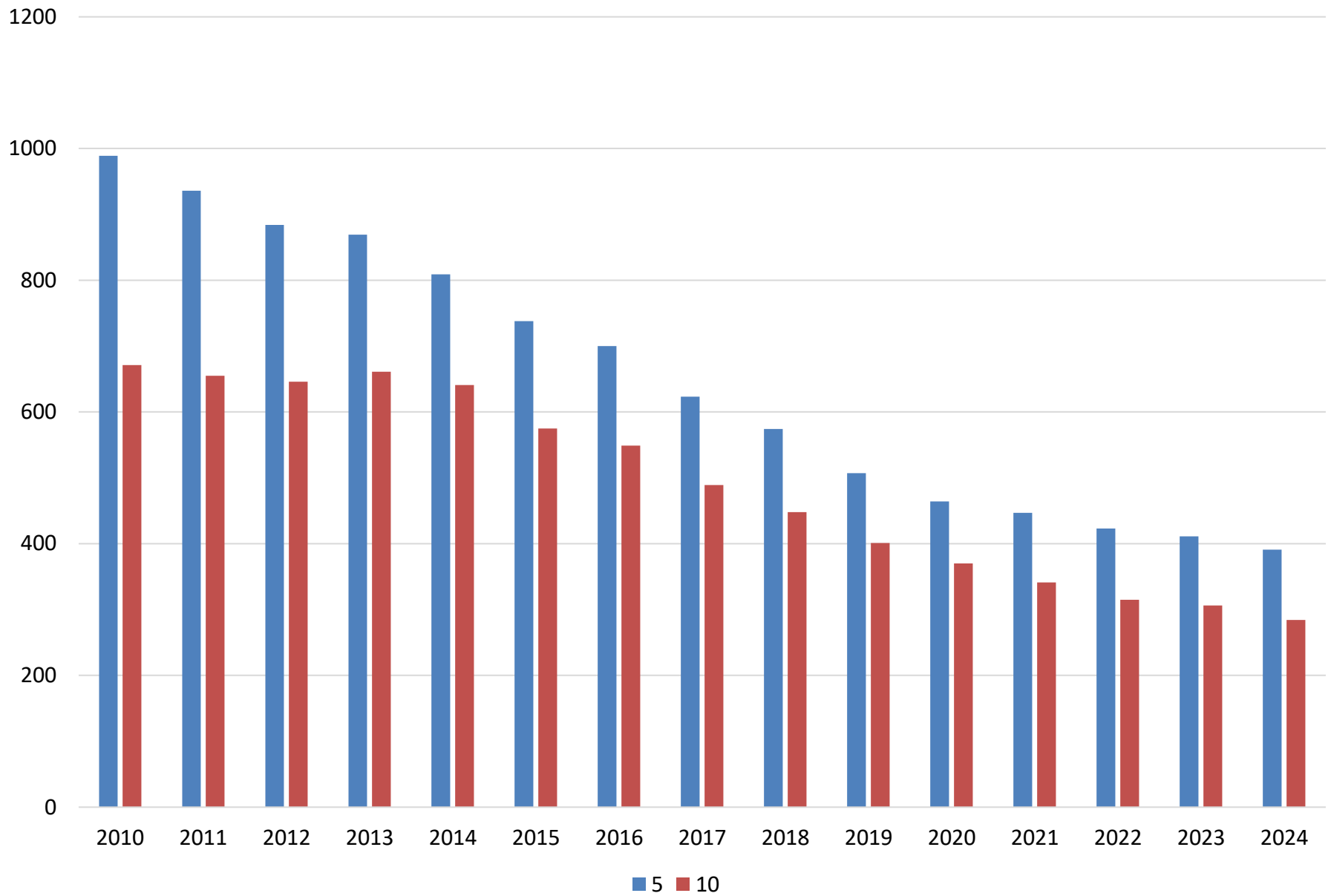
Percent of Total Reported Claims Closed with Payment in First 72 Months After Report



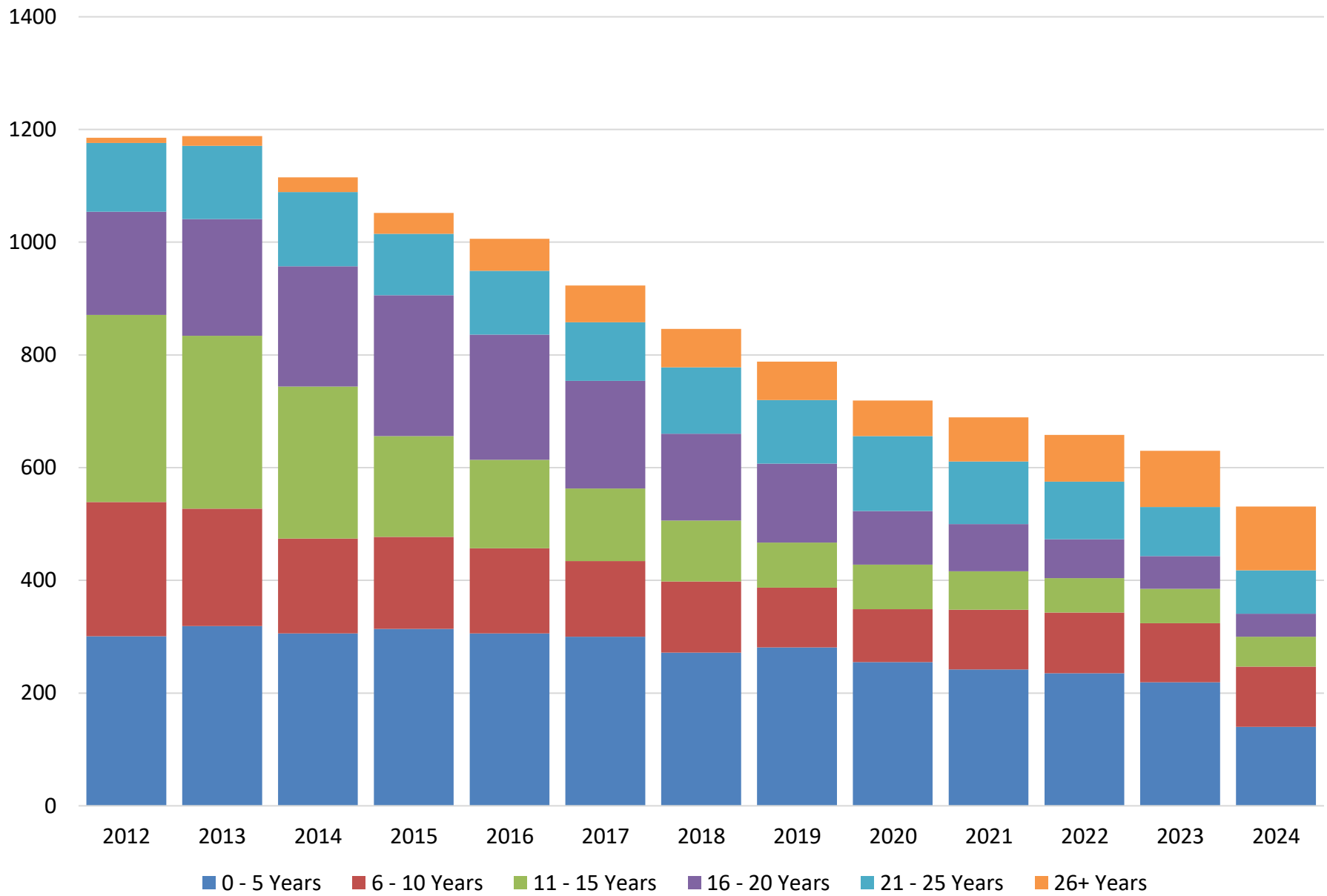
Backlog of Claims Older than 5 or 10 Years as a Percent of Total Open



Backlog of Claims Older than 5 or 10 Years, Absolute Quantities



Number of Open Claims by Age of Release



Percent of Open Claims by Age of Release

